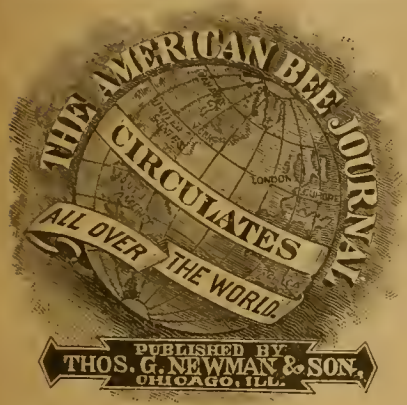
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

VOL. XXIV. CHICAGO, ILLS., JANUARY 4, 1888. No. 1.



Issued every Wednesday at

923 and 925 WEST MADISON - STREET,

At One Dollar a Year.

New Subscriptions can commence at any time. Single Copies Five Cents each.

George Neighbour & Sons, 149 Regent St., Loudon, England, are our authorized Agents for Europe.

ADVERTISING RATES.

20 cents per line of Space, each insertion.

No Advertisement inserted for less than $1.00

☞ A line of this type will admit about eight words. ONE INCH will contain TWELVE lines.

Editorial Notices, 50 cents per line. Special Notices, 30 cents per line.

Transient Advertisements must be paid for IN ADVANCE.

DISCOUNTS.—On 10 lines, or more, 4 times, 10 ℘ cent.; 8 times, 15 ℘ cent.; 13 times, 20 ℘ cent.; 26 times, 30 ℘ cent.; 52 times, 40 ℘ cent.

On 20 lines, or more, 4 times, 15 per cent; 8 times, 20 ℘ cent.; 13 times, 25 ℘ cent.; 26 times, 40 ℘ cent.; 52 times, 50 ℘ cent.

On 30 lines, or more, 4 times, 20 per cent; 8 times, 25 ℘ cent.; 13 times, 30 ℘ cent; 26 times, 50 ℘ cent.; 52 times, 60 ℘ cent.

☞ On larger Advertisements discounts will be stated, on application.

Advertisements for the next BEE JOURNAL must reach this office by the Saturday of the previous week.

Make all Money Orders Payable at Chicago, Ills.—Some postmasters in the country insist on making such payable at some sub-station of Chicago, but we want them drawn on the *main office*.

Topics Presented in This Number.

Added many dollars to his income, etc..... 13
Alfalfa as a honey-plant in Colorado 8
Alsike clover—when and how to sow it..... 10
An apicultural treasure 13
Apiary and biography of Geo. E. Hilton ... 5
Bee-keeping in Texas, etc..... 13
Bee-keeping with other pursuits..... 7
Bees wintering well..... 12
Convention city..... 4
Convention directory..... 12
Convention notices 13
Correspondence 8
Death of John L. Wolcott 4
Editorial buzzings..... 3
Fastening foundation 13
Grapes, bees and the Baltimore oriole..... 12
Honey and beeswax market..... 14
How the bees are wintering..... 13
Insuring and wintering bees 8
Large hives and frames 12
Letter box (as indicated below) 12
W. Addenbrooke, Geo. McCormick,
Chas. D. Barber, John Nebel & Son,
B. F. Carroll, E. F. Rowe,
Walter Harmer, C. Theilmann.
H. Hastings,
Making hives and frames..... 8
Marketing of honey..... 8
Mortality of bees in a cellar 11
Moving bees in winter 6
Nailing frames, crates, etc 9
Nebraska State convention..... 4
New Year's open door 7
North American Bee-Keepers' Society..... 9
Ohio State convention..... 4
Packing bees for winter..... 11
Painting bee-hives 9
Preventing queen from laying in sections.. 6
Queries and replies..... 6
Raspberries for bees... 13
Results of the past season 10
Rich bee-lawsuit 4
Salutation to the New Year 4
Southeaster Michigan convention 7
Temperature in a bee-cellar..... 12
Well provided with food..... 13
What ails tin ?..... 4
White clover and basswood—Poor season.. 11
Winter feeding, apiarian workshop, etc.... 8
World wide 3

Please to get your Neighbor who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

Entered at P.O. as Second-class matter.

TO CORRESPONDENTS.

Our Club Rates are: $1.90 for two copies (to the same or different post-offices); and for THREE or more copies, 90 cents each.

The Bee Journal is sent to subscribers until an explicit order is received by the publishers for its discontinuance, and the payment of all arrearages is made.

Foreign Postage.—To all countries in the Universal Postal Union, 50 cents extra. To all countries NOT in the Universal Postal Union, $1.00 more than the subscription price.

How to Send Money.—Remit by Express, Post-Office Money Order, or Bank Draft on New York or Chicago. If none of these can be had, Register your Letter, affixing stamps both for postage and regiatry, and take a receipt for it. Money sent thus, IS AT OUR RISK; otherwise it is not. Do not send Checks on Local Banks, for they cost us 25 cents each, at the Banks here, to get them cashed.

Postage Stamps of any denomination may be sent for any fraction of a dollar; or where Money Orders cannot be obtained, stamps for any amount may be sent.

Subscription Credits.—The receipt for money sent us will be given on the address-label of every paper. If not given within two weeks after sending the money, write to us, for there must be something wrong. Do not wait months or years, and then claim a mistake. The subscription is paid to the END OF THE MONTH indicated on the wrapper-label. This is a continual statement of account.

We will take Canadian paper money for subscription or books; and Canadian postage stamps may be sent for fractions of a dollar.

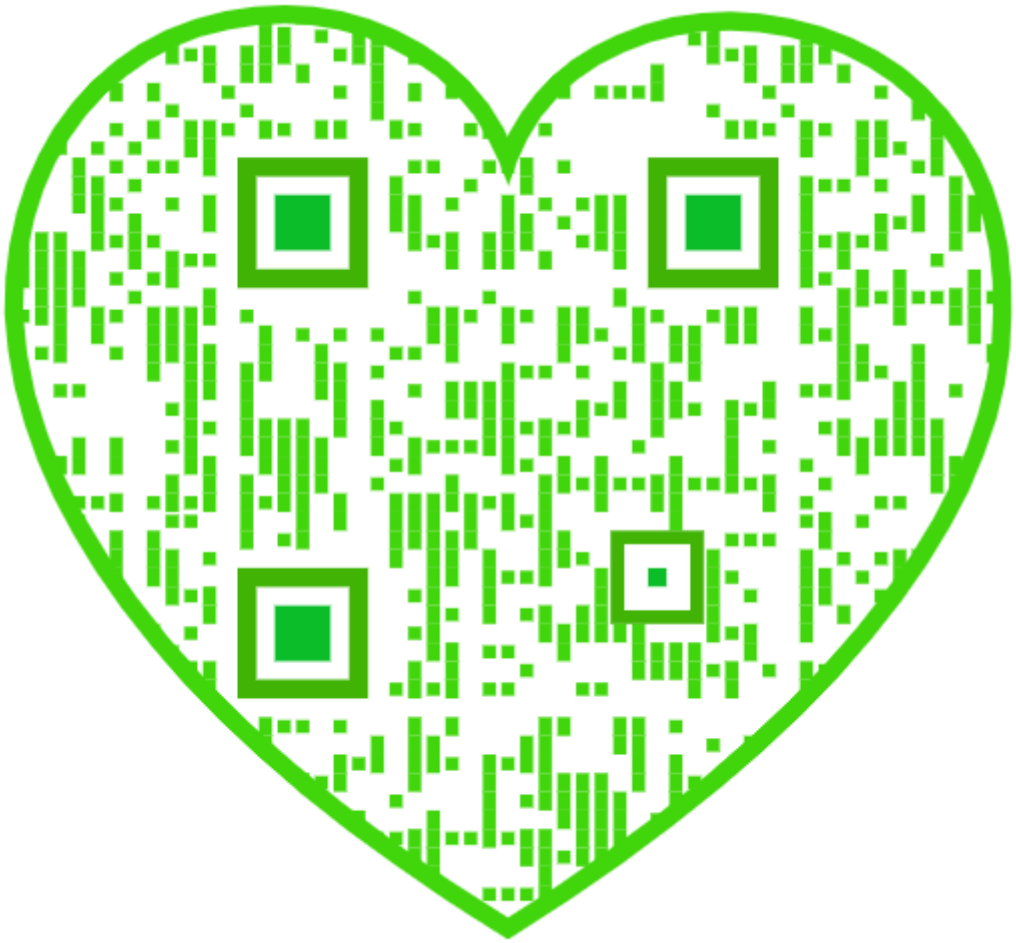
Do not Write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter. Both may be sent in one envelope, but must be on separate pieces of paper.

Never Send Silver in letters It will wear holes in the envelope, or may be stolen.

Emerson Binders, made especially for the AMERICAN BEE JOURNAL, are lettered in gold on the back, and make a very convenient way of preserving the BEE JOURNAL as faat as received. They will be sent, postpaid, for 60 cents each. They cannot be sent by mail to Canada.

Lost Numbers.—We carefully mail the BEE JOURNAL to every subscriber, but should any be lost in the mails, we will cheerfully replace them if notified before all the edition is exhausted.

Always Give the Name of the Post-Office to which your paper is addressed. Your name cannot be found on our List, unless this is done.



AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

Issued every Wednesday by

THOMAS G. NEWMAN & SON,
PROPRIETORS,
923 & 925 WEST MADISON ST., CHICAGO ILL.
At One Dollar a Year.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; or all five for $3.50.

As Bread is the Staff of Life, so is judicious advertising the staff of business! You may as reasonably expect one "good square meal" to suffice for three months, as to expect one advertisement to bring in business for that length of time! Many persons cannot remember anything longer than about seven days. To stop advertising in a dull season, is like tearing out a dam because the water is low—either plan can but result in disaster.

Enterprising queen-breeders and supply-dealers know the value of advertising "all the year round." Presistently keeping their name and business continuously before buyers, will eventually place them on the successful side, if they have a valuable article to sell.

A "sign" is a mute invitation to those who may pass a man's place of business; a "circular" will only reach the one to whom it is personally addressed; but an "advertisement" in a well-conducted and widely-circulated paper (like the AMERICAN BEE JOURNAL) has an influence "far and wide;" it finds customers, and almost compels them to consider the claims of the wide-awake advertiser. To yearly advertisers the AMERICAN BEE JOURNAL offers special inducements. This is just the time to make a contract for the coming year.

A Favorable Word from any of our readers, who speak from experience, has more weight with friends than anything we might say. Every one of our readers can lend us a helping hand, in this way, without much trouble, and at the same time help to scatter apicultural knowledge and promote the welfare of our pursuit.

A Valuable Book Given Away.—We have made arrangements by which we can supply the AMERICAN BEE JOURNAL and the New York *World*—both weekly—for one year, for $2.10, and present the subscriber with **one of these books,** bound in Leatherette Tree Calf:

HISTORY OF THE UNITED STATES—from 432 to 1887.—320 pages.—Price, $2.00.

HISTORY OF ENGLAND—from before the Christian era to 1887.—Price, $2.00.

EVERYBODY'S BOOK—a treasury of useful knowledge.—410 pages.—Price, $2.00.

The extra 10 cents is for postage on the book, which must be selected by the subscriber at the time of sending the subscription, and cannot be afterwards exchanged.

The book selected will be mailed in a cardboard case, at the subscriber's risk; if lost it cannot be replaced. Be sure to write your name, post-office, county and State plainly, and then the risk of loss is *very* small. The subscriptions can commence at any time.

Remember, the amount is **$2.10** for both papers, and the Book and postage.

☞ To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, **$2.50.** Five hundred will be sent postpaid for **$10.00;** or **1,000** for **$15,00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell lots of it.

Don't do it!—Notwithstanding our many cautions, some persons still persists in sending silver in letters. In nine cases out of ten it will break the envelope and be either lost or stolen. Cases come to light nearly every day, showing that silver sent in letters stops somewhere on the way. It is an invitation to the thief—a regular **temptation!** If you wish to *safely* send money, get a Post-Office Money Order, Express Order, or Bank Draft on Chicago or New York. When money is sent in either of the above-named ways, it is at our risk. In any other manner, it is at the risk of the sender.

We are sometimes asked who our authorized agents are. Every subscriber is such an agent; we have no others, and we greatly desire that each one would at least send in the name of one new subscriber with his own renewal for 1888. The next few weeks is the time to do this. We hope every subscriber will do his or her best to double our list of subscribers.

Simmins' Non-Swarming System.—We have received another shipment of these books, and have made such favorable terms, that we will now club them with the BEE JOURNAL for one year, both postpaid, for **$1.25.** We can supply all orders by **return mail.**

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We receive letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

As there is Another firm in Chicago by the name of "Newman & Son," we wish our correspondents would write "American Bee Journal" on the envelope when writing to this office. Several letters of ours have already gone to the other firm (a commission house), causing vexatious delay and trouble.

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office or we will send them all to the agent.

Money Orders can now be obtained at the Post Offices at reduced rates. Five dollars and under costs now only 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them, and are in no way safe.

Photographs of Bee-Keepers.—We have purchased a lot of the "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a photographical sketch of each one, and will send it and the BEE JOURNAL for one year for $1.75, or will present it free by mail to any one for a club of three subscribers and $3.

Should any Subscriber receive this paper any longer than it is desired, or is willing to pay for it, please send us a postal card asking to have it stopped. Be sure to write your name and address plainly. LOOK AT YOUR WRAPPER LABEL.

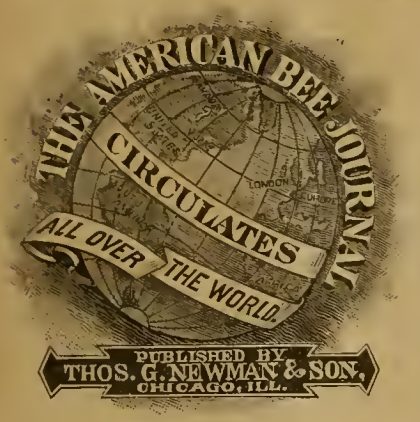
New Subscribers can obtain the full numbers for 1887 and 1888 for $1.80, as long as we have any sets of 1887 left. There are only a few, and to get them an early application will be necessary.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. the prices are reduced, as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

We have a few Sets of the BEE JOURNAL for the present year, and can fill orders until further notice, for all the numbers from the first of last January. New subscribers desiring these **back numbers,** will please to state it plainly, or they will not be sent.



THOMAS G. NEWMAN, Editor.

Vol. XXIV. Jan. 4, 1888. No. 1.

EDITORIAL BUZZINGS.

Past and Present mingle strangely,
While the next world borders this;
Open doors at hour of midnight
Usher in a year of bliss.

Last year's record, good and evil,
Close another page of life;
While the angels whisper promptings
For the New Year's coming strife.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

Mr. John M. Rey, a bee-keeper of East Saginaw, Mich., has just been elected an officer by the "Knights of Honor" of that city. He will be installed to-morrow. There may he be a "RAY of light."

Mr. Jesse White, Perry, Iowa, had a letter printed on page 700 of last year. By an oversight the name "White" was omitted. Of course that was not treating him WHITE, and so we make this correction.

Only a Few complete volumes of the BEE JOURNAL for 1887 are left, and those of our new subscribers who want to secure them should send for them at once. We supply the numbers for 1887 and 1888 for $1.75 until all of the former are gone.

The Apiculturist for January came in good time, and is as usual full of good things of interest to every apiarist. "Prevention of Increase" is the chief topic in this number, and it contains three good articles on that subject. The BEE JOURNAL and the "Apiculturist" for 1888 can be obtained for $1.80.

To-Day we enter upon another year's work—creating another volume of the AMERICAN BEE JOURNAL—rearing another monument to progressive apiculture!

The present issue is nearly all printed from new type, with a clean and clear face, which can easily be read, and contains some two pages more reading of matter than heretofore. It is printed on thick white paper, and is a grand improvement, as a work of art. We trust all our readers will appreciate this, and regard it as an earnest of our determination that the AMERICAN BEE JOURNAL shall hold its place in the front rank, as the "leader" of all apicultural publications, leaving them to FOLLOW in the path we have marked out, prepared and tried in the van-guard.

It is quite unnecessary to state that we shall in the future, as in the past, endeavor to "keep abreast of the times," and place before our readers all the new things in our ever-advancing pursuit, as soon as they come to light.

With these few words we enter upon the fifteenth year since the BEE JOURNAL came into our hands, with full confidence that our labors are fully appreciated.

500 Queries were printed and nearly 6,000 replies given to them in the AMERICAN BEE JOURNAL up to the end of the volume just closed. To-day we give 501 and 502, with more numerous replies than ever. We have engaged several more persons to answer the questions propounded, and their replies will appear in addition to those of former years.

Our Desk Calendar for 1888 is the Columbia Bicycle Calendar and Stand, just issued by the Pope Manufacturing Company of Boston, Mass. The calendar proper is in the form of a pad, containing 366 leaves, one for each day in the year, to be torn off daily. A portion of each leaf is left blank for memoranda, so arranged that the memorandum blank for any coming day can be turned to immediately at any time.

Beeswax and its Utilization, by Mr. J. Dennler, has been translated into the French language by Mr. J. B. Leriche. A copy is on our desk, and as soon as we can give it space, we will publish a translation of it in the AMERICAN BEE JOURNAL. Mr. Leriche is the editor of "Le Bulletin Agricole" at Amiens, France.

The Apicultural Department of the "Indiana Farmer" has passed into new hands. Our friend, G. K. Hubbard, now becomes the editor of it. The Apiary Department of the "Indiana Farmer," under the management of Mr. Dougherty, has long been a credit to the pursuit, and as Mr. Hubbard is one of the BEE JOURNAL family, we may naturally expect it to be fully as good, if not better than ever before. We wish him much success.

World Wide.—Kindly take another look at the engraving at the head of this page. It is a work of art, and tells its own story, for the AMERICAN BEE JOURNAL today enjoys a reputation and influence second to none in the world of apiculture! Its weekly visits to thousands of homes all over the world is greeted with an enthusiastic WELCOME! Its apicultural instruction and record of improved methods in our pursuit have been as anxiously looked for as they have been essentially adopted by apiarists not only in every State, Territory and Province in North America—but also in Australia, Europe, Asia, and Africa!

We have adopted this design because it is so suggestive as well as comprehensive, and surely we may have a pardonable pride in its ELEGANCE. Some time since Mr. Baldridge, of St. Charles, Ills., sent us the following from a metropolitan daily paper:

It has become the custom of late for a railroad to adopt some distinctive design for posters, letter-heads, etc. Thus the Pennsylvania has its key-stone, and the Bee-Line its "honey-bee." The Lake Shore passenger department has just adopted a mail pouch as its trade-mark, emblematic of rapid transit.

This "hint" suggested to us the appropriateness of adopting the superb emblem at the head of this column.

The New Constitution and By-Laws which we presented at the late convention in this city, meets with the general approval of the "Canadian Honey Producer," but in its last issue it asks us to comment upon and discuss its merits more fully in the AMERICAN BEE JOURNAL. We gave weeks of valuable time and very careful consideration to every point, and when it was presented to the convention we considered it as nearly perfect as we could make it. Now, if any one sees a point in it open for improvement, let it be presented, and we will cheerfully either defend it as it is, or adopt the amendment. We desire to have it fully discussed, and improvements made where possible.

Robert's Rules of Order for deliberative assemblies, published by S. C. Griggs & Co., Chicago, is "a gem" in appearance, and an invaluable guide for those who are called to preside over conventions of bee-keepers and others. It has a table, covering two pages, which will aid a chairman to decide 200 questions of importance, without turning a leaf. Price 75 cents.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Cold Weather is reported everywhere.

GLEANS OF NEWS.

What Ails Tin? asks one of our exchanges. A California Trade Journal answers the question in this way:

Tin is now selling at higher prices than ever before. The reason for this is that a syndicate of French merchants have gained control of the tin market, and are conducting a corner in that commodity all over the world. Mr. S. Mendel represents the syndicate in New York. The combination was made in Paris last April, with a capital of about $50,000,000. They sent their agents to the London market and bought up in spot and futures more than the estimated supply of tin in the world. Since then the price of tin has advanced from 22 to 35 cents a pound, or from $5 to $8 a ton, and the limit has probably not been reached. The agents have also gone to the mines in the East Indies and in China, and secured their future output. They have likewise made purchases in the New York market, and now control everything in sight.

Bee-keepers are very much interested in the market value of tin. It is extensively used for honey and wax extractors, as well as for putting up extracted honey. The advance in prices will enhance the value of these necessary articles, and our best advice is to lay in a stock of such as are needed before a further advance in price is announced.

Mr. John L. Wolcott, of Bloomington, Ills., an apiarist widely known and much respected, died at his home on Dec. 19, from a disease of the liver. A widow and seven children are left to mourn his loss. He was 79 years of age on Aug. 30, 1887. Two years ago we called upon him at his place of business in Bloomington. He was then quite unwell, and we are not surprised to hear of his death. He had been in business in that city for over forty years. The BEE JOURNAL condoles with the mourning family.

The "Rich" Lawsuit is now being appealed, but the expenses are heavy. So far they have amounted to $468.04. To appeal the case will cost $500 more; and in the interest of the pursuit it should be done. The Bee-Keepers' Union is now only able to offer Mr. Rich $200 to help his appeal. Now it is a shame that with 300,000 bee-keepers in the United States, that so few are willing to join the Union to defend the pursuit against its enemies.

Last July the members voted to put the fees down to an even dollar a year, and this amendment took effect on Jan. 1, 1888. Now let us see if this will not raise at least $1,000 so as to defend the three or four cases now on hand. We await the decisive action of bee-keepers. What say you, reader, will you not become a member?

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents.

The Cranky Council in Arkansas, which has made a crusade against honey-bees, is nicely "dished up" by the "Southern Cultivator," a wide-awake farm paper. It says:

Out in Arkadelphia, Ark., the City Council lately declared bees to be a nuisance, some crank charging the bees with eating up his young ducks, as well as eating up the peaches! A fine of not less than $5, nor more than $25, was fixed for each day the bees were left in the city after the passage of the ordinance. Mr. Z. A. Clark, an influential apiarist of that place, backed up by the National Bee-Keepers' Union, proposes to fight the case on its merits, and it is reckoned he will conquer the cranky Council.

Ireland is likely to be a prominent European topic in 1888 as in 1887. To most readers a bright article describing the Parliament as that island once possessed it, will be something acceptable. The opening article of "Frank Leslie's Popular Monthly" for January, will give general pleasure. The House, the Halls of each House, the prominent men who figured on the floor, are all drawn graphically with pen and pencil.

Convention City.—Since it was decided that the next annual meeting of the North American Bee-Keepers' Society should be held at Toledo, there has been several protests. Mr. J. E. Shaver, of North River, Va., on Dec. 21, 1887, writes thus:

Could not a change be made yet, and hold the next convention in Cincinnati instead of Toledo? I think it certainly should be in Cincinnati next year. Have it there, if possible.

Our only reply to this is that we will print the request, and respectfully refer it to the executive committee. Their decision must be final. We have nothing to do with the matter.

Dr. A. B. Mason, President of the North American Bee-Keepers' Society, is on the programme of the Southeastern Michigan Farmers' Club, for an address, at their meeting to be held at Monroe, Mich., on Jan. 19, 1888. The Doctor will be sure to put in a good word for bees and bee-keeping. He is just the man for the occasion, and will do credit to the fraternity and pursuit of apiculture.

New Catalogues for 1888 are on our desk from the following persons:

A. F. Stauffer, Sterling, Ills.—16 pages—Bees, Queens, and Bee-Keepers' Supplies in general.

P. L. Viallon, Bayou Goula, La.—24 pages—Implements in Bee-Culture, Bees, Queens, etc.

W. D. Soper (successor to A. D. D. Wood), Jackson, Mich. — 2 pages — Bee-Keepers' Supplies.

Wm. Hoyt, Ripley, Maine—4 pages—Bees and Queens.

Landreth's Vegetable Garden Seeds, Philadelphia, Pa.—32 pages—Garden Seeds.

Aaron Hunt, Gordon, O.—24 pages—Apiarian Supplies and "Guide to Bee-Keeping."

STATE CONVENTIONS.

Ohio State Convention.

The fifth annual Ohio State Bee-keepers' Convention will be held in the United States Hotel, on the corner of High and Town Sts., Columbus, O., on Jan. 10 and 11, 1888. An interesting programme will be arranged. Reduced rates at the hotel are $1.50 for each person, double, or $2.00 per day if single. There will be reduced rates of travel, particulars of which will be given later. It is desirable to know who can be present. Will you kindly notify me by postal card, at Bluffton, Ohio. The following is the programme:

TUESDAY, 9 A.M.—Reading the minutes of last meeting. Receiving members and collecting dues. Reports of the Secretary and Treasurer, and standing committees.

Bee conventions, how to make them a success, and their value to bee-keepers.—A. I. Root.

Discussion on the Sectional Brood Chamber and its advantages.—Led by Dr. G. L. Tinker.

Reversing, and has it come to stay?—C. M. Kingsbury.

TUESDAY, 1 P.M.—Discussion on Bee-keeping in connection with other pursuits.—Led be F. A. Eaton.

Bee-keeping for women.—Mrs. Jennie Culp.

Bee-keeping as an exclusive pursuit.—Dr. C. C. Miller.

TUESDAY, 7 P.M.—Wood *vs.* tin separators: is it profitable to dispense with either?—Dr. Besse

T-supers and other surplus arrangements in connection with bee-spaces.—E. R. Root.

Discussion on, *Resolved*, That bee-keeping as a business is more profitable than farming.

Opening of the question-box.—S. R. Morris.

WEDNESDAY, 9 A.M.—Extracted honey: its production, and the best method of marketing it.—Dr. A. B. Mason.

The commission man and his relation to the honey-producer, as affecting the sale and price of honey.—Chas. F. Muth.

WEDNESDAY, 1 P.M.—Tiering-up: its advantages.—J. W. Newlove.

Freezing bees.—C. E. Jones.

In-door *vs.* out-door wintering of bees, and the advantages of the former.—H. R. Boardman.

Election of officers for the ensuing year.

FRANK A. EATON, *Sec.*

Nebraska State Convention.

The next meeting of the Nebraska State Bee-Keepers' Association will be held on Jan. 11, 12, and 13, 1888, in Red Ribbon Hall, at Lincoln, Nebr. The Lindell Hotel will give reduced rates to members. Those who come should get a receipt from their home railroad agents on starting to Lincoln, as railroad companies require fifty receipts to entitle members to reduced rates. President Ryan requests all members to have questions ready for the first evening, so that they can be arranged in order. The programme is as follows:

What are the essential points in locating an apiary?—J. G. Hodges and J. L. Blanchard.

Apiculture as a profitable and permanent occupation.—A. D. Keller and C. Ceelay.

How does bee-keeping pay compared with other occupations?—R. E. Leach and J. Rodgers.

How to obtain the most honey in the best marketable shape.—Mrs. J. N. Heater and M. Tower.

How much, if any, comb foundation should be used?—E. Kretchmer and E. Tower.

Diseases of bees, their causes and remedies.—E. M. Hayhurst.

Is spring stimulating advisable? If so, with what?—T. L. Von Dorn and W. J. Lynch.

How best to prepare honey to exhibit for sale or for show.—Mrs. J. N. Heater and E. W. Whitcomb.

Which is more profitable, comb or extracted honey?—A. Johnson and M. D. Abbott.

Increase, natural or artificial?—R. V. Muir and J. F. Polk.

Should bees be frquently examined? and at what temperature should the atmosphere be?—Mrs. L. Marshall and Jas. Jardine.

Spring work with bees.—E. M. Hayhurst.

Fall breeding and spring dwindling.—J. N. Heater and E. Kretchmer.

Honey-plants of Nebraska.—Professor C. E. Bessey, of the State University.

Rearing queens and clipping their wings.—J. M. Young.

H. N. PATTERSON, *Sec.*

BIOGRAPHICAL.

GEO. E. HILTON'S APIARY, AND BIOGRAPHY.

The illustration in the next column shows the apiary of Mr. Geo. E. Hilton, of Fremont, Mich., which contains about 90 colonies of bees. The octagonal building in the centre is the honey house and extracting room. The little piece of walk at the right leads to the dining-room door, and the walk running to the honey-house runs close to the dwelling, which is just cut off at the right of the picture.

The tallest person in the foreground is Mr. Hilton with his favorite hiving basket in his hand. The boy at his right is his little nephew and namesake, Geo. D. Hilton, while Mrs. Hilton stands on the walk further back. A new factory now stands to the right of the buildings, at the back of the lot, and has been built since the picture was taken.

The hives are painted, and so arranged that there is first a red, then a white, then a blue one in every direction, the rows running straight east and west, and north and south ; the hives facing the east.

Mr. Geo. E. Hilton is an energetic and progressive apiarist, and we present an

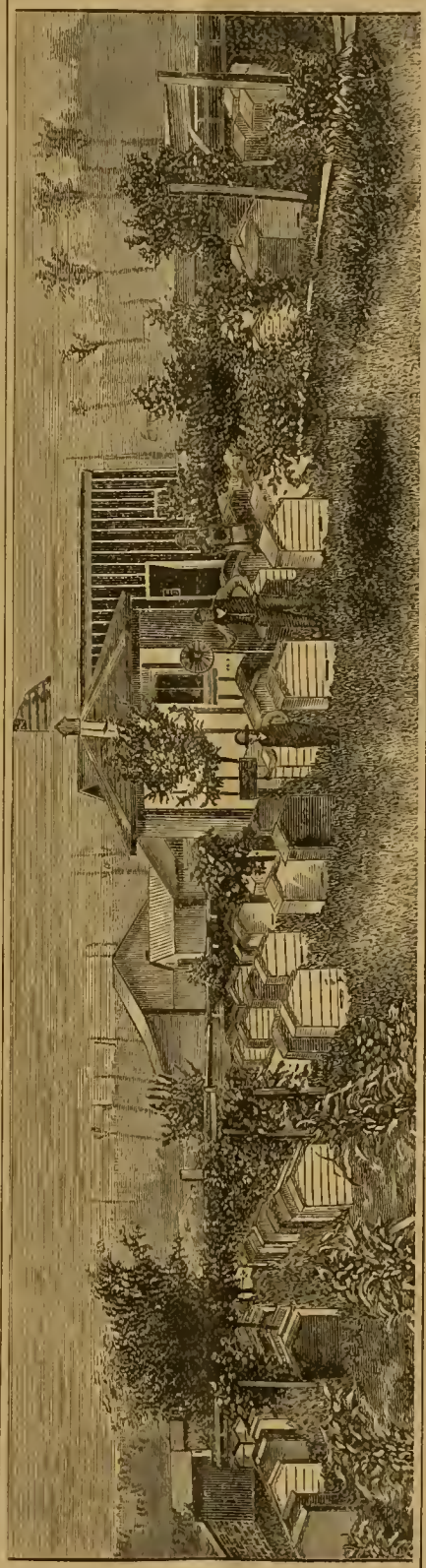
GEORGE E. HILTON.

illustration to show his personal appearance, and have secured a biographical sketch from which we extract as follows :

Mr. Geo. E. Hilton was born Aug. 25, 1846, in Bedfordshire, England, near the spot where John Bunyan wrote the world-inspiring book, "The Pilgrim's Progress," while incarcerated in Bedford jail. His parents moved to America when he was between 5 and 6 years old.

He says that he was always attracted to bees, and was never afraid of them from his earliest remembrances, and that he "lined" a bee-tree from bees working near the kitchen, when only 12 years of age, and the cutting of that tree resulted in his having all the honey he wanted for the first time in his life. He often said that when he became a man he would keep bees. He often sat by the side of an old log-gum watching the "tireless little workers," and enjoyed it much better than the sports usually indulged in by other boys.

His first colony of bees was a present from his wife ; the parties of whom she bought it had another, and he bought that. This was in the summer of 1877 ; the 2 were increased to 4 colonies, but being on odd sized frames they were soon transferred to



the American frame, and increased to 6 colonies ; but finding too much honey along the top-bars, and learning of the Langstroth frame, they were again transferred, and from that time until the present, his success has been very gratifying. His honey crop was largely in the comb, and for the past 8 years his average per colony has been about 75 pounds. The past season was the poorest one.

Mr. Hilton has a good library of books by the best authors on bee-culture, and takes nearly all the bee-periodicals. He put the first sections of comb honey on his home market which were ever seen there, and now has a large trade with surrounding towns, seldom having to ship to the large cities. He has helped many to start in the business, and Newaygo county is fast coming to the front as a honey-producing county.

A local organization called "The Fremont Progressive Bee-Keepers' Association" exists, of which Mr. Hilton is President. He has always taken great interest in convention work, believing it to be one of the best sources through which to receive and impart knowledge. He has attended the "North American" whenever it has been within his reach, and has never missed a meeting of the Michigan State Convention since his first attendance in 1881. He was elected President of that body in 1886, and re-elected in 1887.

Mr. Hilton, in the Fremont "Indicator," remarks as follows concerning East Saginaw, where the last Michigan State Convention was held :

Space will not permit me to speak of all the favors shown us while there. For cleanliness of streets East Saginaw is next to Detroit. For modern architecture in public and private buildings, taste and ornamentation, certainly she stands at the head. The newspapers, too, gave us every attention, devoting nearly a column morning and evening to the proceedings, and none but favorable comments appeared on their pages, which showed their reporters to be gentlemen in their profession, whether we deserved it or not.

The bee-keepers of Michigan will long remember their visit to East Saginaw. The address of welcome by Mayor H. M. Youmans was enough to make every one happy all through the session. But, not satisfied with this, he invited us in a body to look over the fire department. Here an alarm of fire was sounded two and a half miles away, and in the twinkling of an eye the gas lighted, the horses attached to the hose cart, the doors flew open, and away they went—the whole thing, except the muscles of the men and horses, being moved by electricity.

The Earliest January number of a bee-paper on our desk is the "Canadian Honey Producer," edited by our friend, Mr. R. F. Holtermann. Mentioning his visit to Chicago, and the late convention, he says :

It was pleasing to meet with so many bee-keepers—some old and some new faces. Thanks to Mr. Newman, the editor the AMERICAN BEE JOURNAL, of Chicago, the accommodation was all that could be desired. The second morning of the convention a party of us paid a flying visit to the office of the AMERICAN BEE JOURNAL, also the Museum of bee-keepers' supplies and curiosities, and went through the factory and ware-rooms of Mr. Newman's supply business. Time would not permit the party to examine all of interest to the bee-keeper and supply dealer, but we felt amply repaid in the information we gained by the inspection of the Museum. Mr. Newman was in very poor health at the time of the convention. His numerous friends will be pleased to hear that he is regaining strength.

QUERIES AND REPLIES.

MOVING BEES IN WINTER.

Written for the American Bee Journal

Query 501.—My apiary is too near the highway, and it is desirable to move the bees a few rods. Can it be done this winter, without danger of loss when they come out for a flight in the spring?—New York.

Yes.—W. Z. HUTCHINSON.

Yes.—JAMES HEDDON.

Yes. The loss in the spring will be insignificant.—J. P. H. BROWN.

Yes, if a board is so placed over the entrance as to make them re-mark their location.—A. B. MASON.

Yes; it can be done on any day when not extremely cold. Bees appear to mark their location during their first flight in the spring.—MRS. L. HARRISON.

Yes. Not a bee need be lost. Remove as far as possible all familiar objects from the old location.—M. MAHIN.

Yes, I have several times moved bees in December, from 1 to 100 rods, with no bad results.—G. M. DOOLITTLE.

Yes, they may be moved now or in the spring, before they have had a flight, without loss from change of location.—G. L. TINKER.

Yes, if you place some obstruction leaned against the hive, over the entrance, so that they will mark their location.—H. D. CUTTING.

I should prefer to wait till spring, and then move them a few feet at a time till the new location was gained. In any other way I think that some losses must occur.—J. E. POND.

Yes, the loss would be very slight if any at all. Leaning a board against the front of each hive before the first spring flight, might assist in preventing loss.—R. L. TAYLOR.

It can be done at any time if all are moved. The danger from loss by bees losing their bearings is not so great as some think. I have quite often moved colonies only a few feet, with no bad results.—EUGENE SECOR.

I would remove them as early as January, or before they have a chance to fly much. They can be removed at any time by using broad boards to shade the entrances, and thus induce the bees to mark their new locations. —C. H. DIBBERN.

Usually there is no trouble at all in doing this. If anxious, turn the hive about and place a board against the hive so that it will lean over the entrance.—A. J. COOK.

Move them just before flying in the spring, and make their old ground look as different as possible. A board put up in front of each hive after moving will help.—C. C. MILLER.

There will be a little loss even then. When you move them, place a slanting board in front of the entrance, to show them a change of position at their exit. If there is any danger of spring dwindling, do not move them at that time. We have once suffered a severe loss for just such a reason.—DADANT & SON.

Yes, your hives can be moved back as far as you want them without any perceptible loss of bees. Several years ago I was situated exactly as you describe; my apiary was too close to the highway, and people passing were afraid of the bees. I staked off the new yard, and got everything ready so as to place the hives as nearly in their old position relative to each other as was practicable. I then had a man to help me, and each hive was borne between us so steadily that the bees were not aroused in the least. After the hives were all placed in their new location, we cleaned up the old yard of all land-marks as much as possible; and the first warm day thereafter I made some smothered fires of damp straw on the old site, and kept them going till the bees had marked their new location. Some boards or shingles were placed in front of each hive.—G. W. DEMAREE.

Yes; it will be very EASY as well as very "desirable" to move the bees during the winter repose, if they are too near the highway. It is very important that the apiary should be located at a SAFE distance from highways, pathways, and places where damage may result from such location; and if any others are so located, let there be no delay in making the removal. The bees will re-locate the location on their first appearance in spring, especially if a board or bough be placed over the entrance.—THE EDITOR.

PREVENTING QUEENS FROM LAYING IN SECTIONS.

Written for the American Bee Journal

Query 502.—If I hive a prime swarm on eight standard Langstroth frames, with starters one inch wide, and transfer the supers from the old to the new hive, will a slatted break-joint honey-board keep the queen from laying eggs in the sections?—Illinois.

It will, if accurately constructed.—J. P. H. BROWN.

Yes.—MRS. L. HARRISON.

I have never tried it, but I should think not.—A. B. MASON.

I think that it would usually, but I have not had experience.—C. C. MILLER.

Not in every case, but if they are good to work in the sections, the queen will seldom go there.—H. D. CUTTING.

It may have a tendency in that direction, but to make a sure thing, it should be queen-excluding.—W. Z. HUTCHINSON.

Most likely, if the supers are well filled with honey; otherwise we would advise a delay of one or two days.—DADANT & SON.

I have never tried it, but I should say that it would be doubtful, especially if starters used were comb foundation; if of comb, the queen would be less liable to go into the sections.—G. M. DOOLITTLE.

Sometimes yes, and sometimes no. It will depend upon your management otherwise. A queen-excluder is the only safe and sure remedy.—J. E. POND.

Usually, but not always. Why not use a queen-excluder, then assurance is made not only doubly but wholly sure.—A. J. COOK.

No, not in every case. A queen-excluding honey-board, or some comb in the brood-chamber, would be necessary in order to keep the queen out of the sections.—R. L. TAYLOR.

I should prefer, in that case, a queen-excluding honey-board. If supers were put on at once, I should fear that the queen would go into the sections. —EUGENE SECOR.

If the sections transferred from the old hive are nearly ready to seal up, it will; otherwise the queen would be almost certain to lay eggs in the sections.—C. H. DIBBERN.

That will depend upon circumstances. If there are empty combs in the super, and the flow of honey should fail for a day or two, I would expect the queen to enter it and turn it into a brood-chamber. I would prefer to wait before putting on the super, until the bees had got started below.—M. MAHIN.

The slatted break-joint honey-board always has a tendency to keep the queen below, and I have never been troubled with brood or pollen in the surplus department whether these honey-boards were made queen-excluding or not. I am wondering if your fear of getting brood in the sections under the circumstances you mention, is the result of experience or theory. I have practiced this placing over the surplus on swarms, for over 15 years, and I have never been troubled with brood in that way; and I used to do it before we had foundation to put in empty frames. At this season of the year all combs are filled with honey as fast as built, whether built from foundation or otherwise, and there is no chance for the queen to lay in them.—JAMES HEDDON.

No. The habit of bees inclines them to ascend to the highest point in the hive, and when a hive is arranged as described by you, the queen is likely to go into the surplus cases at

the start, and if she finds empty combs of the proper depth of cells for breeding, she will commence business at once, and you will see your plan defeated. Unless you use perforated zinc queen-excluders, you had better defer putting on the surplus cases from the old hive for 4 or 5 days, or until the queen has commenced laying in the newly-built combs below. After that she is not liable to leave the brood-nest with or without a honey-board, as long as she finds room to carry on house-work below.—G. W. DEMAREE.

If the supers are not put on for three days after hiving, the queen is not apt to go above the honey-board to lay eggs in the sections. A great deal depends upon the size of the brood-chamber given. If it has a capacity for less than 800 square inches of comb surface, the honey-board should certainly be queen-excluding. Queens are more apt to enter the sections just before than after swarming, if they have access to them.—G. L. TINKER.

No; it could not be depended upon to keep the queen from laying in the sections—that can be prevented by using a zinc queen-excluding honey-board. Inch starters in the brood-frames are too small to be satisfactory to the great majority of bee-keepers, who usually prefer either much larger pieces or full sheets.—THE EDITOR.

The New Year's Open Door.

MRS. A. GIDDINOS PARK.

Like one who turns some magic key
That holds from his wonderlog sight,
In close shut casket, the choicest gifts
Of gems and jewels bright,—
With eager hand on the portal key
Of the unknown corridor,
And the song of hope in our hearts, we stand
At the New Year's open door.

And we say: "What hast thou in trust for us
That we crave, O glad New Year?
Will your white-robed Winter, your smiling Spring,
Your rose-crowned Summer fair,
Your Autumn bright, bring joy or grief?
Hope's fulfillment, or hope deferred?"
And we eagerly listen, and anxiously seek
For some token seen or heard.

But silence alone gives answer. (Nay,
We ever would have it so.)
And nought is heard in that corridor dim
But the echoes of long-ago!
It is well. It is well that each flitting day
Reveals but its secrets alone,
And the future, though pleadingly importuned,
Withholds from each heart its own.

Ah, enough for us if duty be done
With a brave and honest heart;
Though adversity frown or prosperity smile,
To nobly perform our part.
So keep your counsel, O glad New Year,
Whether good or ill be in store;
May Heaven guide us and guard us e'er—
This we ask and we crave no more.

—*The Ætna.*

BEE CONVENTION.

Report of the Southeastern Michigan Annual Meeting.

Written for the American Bee Journal
BY A. M. GANDER.

The annual meeting of the Southeastern Michigan Bee-Keepers' Association was held in the Supervisors' Room of the Court House at Adrian, Mich., on Dec. 15, 1887.

The meeting was called to order by President Howes. The Secretary's report was read and approved, as was also that of the Treasurer. The report of the standing committee to confer with the executive committee of the County Agricultural Society was given by Mr. D. G. Edmiston, who reported that the Apiarian Department of the premium list of the Agricultural Society had been placed in the control of the Bee-Keepers' Association, and that a fairly liberal amount had been allowed the department, which had been arranged in a suitable list for the department.

Some discussions followed the report relative to striking out the part of the foot-note referring to bee-hives, feeders, queen-cages, and to honey being produced in the county, which resulted in a motion for a committee to be appointed to revise the premium list of the department, and to make necessary arrangements with the Fair Society. It was also voted that the portion of the foot-note mentioned above should be stricken out.

The committee as above mentioned is composed of the following: H. D. Cutting, of Clinton; A. M. Gander, of Adrian; and D. G. Edmiston, of Adrian.

The annual membership fees having been raised from 25 cents to 50 cents, at the last meeting, were voted back to the former amount, and 15 members then paid their dues.

Only a partial statistical report for 1887 was secured, being as follows: Number of colonies in the spring of 1887, 307; number of colonies in the fall, 377; number of pounds of wax produced, 173; number of pounds of comb honey produced, 2,515; number of pounds of extracted honey produced, 5,405; and the average price obtained per pound, 14 cents. The average yield per colony, spring count, was $25\frac{3}{4}$ pounds, and the number of queens sold was 91.

A committee of three on exhibits was then appointed, and the convention adjourned until 1 p.m.

The convention was called to order at 1 p.m., with President Howes in the chair. There was considerable discussion on the subject of producing both comb and extracted honey in the same apiary, it being generally thought that the extractor could be used to good advantage in an apiary where comb honey was produced; but not to obtain both extracted and comb honey from the same colony, at the same time.

Mr. Edmiston gave the method practiced by W. Z. Hutchinson, for getting the bees to work in surplus sections, and storing the honey in them.

Mr. Cleghorn gets the bees to enter and work in the surplus chamber, by raising a frame of brood to the surplus chamber for a short time, till the bees get well at work; then he removes the frame, extracts the honey, and returns the frame to the brood-chamber.

The election of officers resulted as follows: President, Dr. Samuel Stevenson, of Morenci; Vice-President, one for each county in the district of the association, as follows: Washtenaw county, Dr. C. F. Ashley, of Ypsilanti; Jackson county, Mr. F. Wilcox, of Jackson; Livingston county, F. L. Wright, of Plainfield; Hillsdale county, E. Goodrich, of Hudson; Oakland county, J. J. McWhorter, of South Lyons; Lenawee county, D. G. Edmiston, of Adrian; Wayne county, M. H. Hunt, of Bell Branch; and for Monroe county, M. Fleming, of Dundee; Secretary, A. M. Gander, of Adrian; and Treasurer, D. G. Edmiston, of Adrian, Mich.

The place for holding the next meeting was decided in favor of Jackson, and it was voted to meet jointly with the State Bee-Keepers' Society. The time for meeting of that society is to be fixed by the executive committee.

Bee-Keeping with Other Pursuits.

Mr. Deer combines poultry with bee-keeping, and find that it works very well. It keeps him busy, as there is plenty of work to do, but he can manage them quite satisfactorily. Horticulture was found to work quite well in connection with bee-keeping, if strawberries be excluded, as they ripen at the busiest time with the bees.

Wintering Bees.

Proper protection on the summer stands seemed to be the preferable way for wintering, but a proper cellar was not without its advantages. Changeable weather in the spring, after the bees are put out, was the main objection to cellar-wintering. If wintered in a cellar, the bees should be kept there as late as possible without injury to them (or as long as they can be kept quiet), to avoid chilling of the brood by early spring changes. All agreed that protection was necessary.

Mr. Edmiston and Mr. Deer favored the chaff hive, and said that bees wintered as well, or better, in them as any other way.

Mr. Stevenson gave his method of preparation for winter, which was to thoroughly protect the bees on all sides and on top by an outer box with a cover, allowing a space for dry packing-material, and fix them up early or before cold weather sets in.

The Marketing of Honey.

Mr. Deer stated that he had bought honey that was in good condition for market, and on the market in his place, at a much less price than honey could be bought of posted bee-men. He bought of store-keepers at their price, and shipped to other markets at a good profit, showing that the honey was sold by the producer at a far less price than it was worth; thus his local market was rid of the surplus honey, that the unposted bee-keeper had parted with, unconscious or regardless of its value, and at the same time it opened a way for his own product at something near its value.

Mr. Cleghorn favored the appointment of a good business man to look the markets over, and open up avenues by which the honey in the district might be disposed of. Mr. Armstrong also favored Mr. Cleghorn's idea.

Mr. Howes illustrated how certain parties, not posted, brought their honey to market, selling it at less than its value, and when asked why they sell at less than what it is worth, and told what can be obtained for such honey, seemed surprised, and want to know where they can get such prices, or its value. He also stated that such persons will not take a bee-paper and keep posted, as that would cost something, and every penny saved is so much clear gain; but they go on losing dollars and tens of dollars, all for the lack of a little extra energy, and to save the small sum that it would cost to keep posted; yet the same thing happens year after year. The opinion seemed to prevail that those interested should use every influence possible to inform and induce such parties to keep posted.

Miscellaneous Business.

The committee on exhibits then made an enumeration of the various articles on exhibition.

A vote of thanks was tendered for the use of the room in the Court House, and for janitor's services. It was voted not to hold an evening session.

The convention then adjourned to meet at Jackson, Mich., in conjunction with the State Bee-Keepers' Association.

Adrian, Mich.

CORRESPONDENCE.

BEES IN COLORADO.

Alfalfa as a Honey-Plant, the Drouth, etc.

Written for the American Bee Journal

BY WILLIAM WILLIS.

As a partial answer to the questions of Mary A. Goodale, on page 792 of the BEE JOURNAL for 1887, I will give a brief sketch of my experience: In the month of June, 1876, I sent 2 colonies in box-hives without frames or comb foundation, and they filled these hives and stored 30 pounds of surplus comb honey per colony. Last June I sent 8 colonies more that had been threatening to swarm, but were too poor, and I got to this country on June 11, just as the alfalfa was getting in full bloom. I found bees working finely, and was expecting that they would soon send out several swarms; but in this I was disappointed, as I soon found that they had crowded the hive with honey so that the queen could not do her work; so the result was only 3 late swarms, and 50 lbs. per colony, of comb honey. Bees gather honey from alfalfa here, and I think they will wherever it is irrigated. We think here that we are not dependent upon the showers for our honey crop, as the best honey was gathered in June and July, before the rains began; but my bees continued to fill the sections till Oct. 10.

Montrose ♀, Colo., Dec. 20, 1887.

FIRE INSURANCE.

Wintering Bees and Insuring them against loss by fire.

Written for the American Bee Journal

BY A. C. WALDRON.

My bees are in the cellar on a platform raised about 3 feet from the cellar bottom, with the entrances wide open, and with a cover and blanket on, the same as when on the summer stands. They have natural stores, mostly gathered from fall flowers and buckwheat. I keep the temperature about 34° Fahr., as near as I can. I have a ventilator connected with the chimney, and when it is too warm I open that, and when it is cool I close it; if too warm, I put a piece of ice in the cellar. My bees are quiet, and there are but few dead ones. They do not seem to be disturbed by any one entering the cellar for vegetables, unless they are jarred.

I tried to insure my bees against loss by fire while in the cellar, but the company rejected that clause, saying that they did not insure bees. Has any one had any experience in that line? I would like to hear from some of the many bee-keepers as to their method of wintering bees. Will Mr. Powell or Mr. Lee describe their method in the AMERICAN BEE JOURNAL? Will the editor please give the size of the standard Langstroth brood-frame?

Buffalo, ⊙ Minn.

[The size of the standard Langstroth frame is 9⅛x17⅝ inches, outside measure.—ED.]

WINTER WORK.

Feeding in Winter—Workshop—Hives, Frames, Crates, &c.

BY GEO. A. STOCKWELL.

Very little can be done with the bees in winter, in fact nothing in zero weather, but on warm, sunny days they may be fed, if in danger of starving; and bees in-doors may be placed on out-door stands, that they may have opportunity to fly and void excreta, an act never committed in the hive by bees in health, though they may remain in confinement from November to April. A "purifying flight" is a great help.

Winter Feeding.

If feeding be necessary, place warm food in a wide-mouth bottle, tie strainer-cloth over the mouth, and invert on the top of the frames. The bees will take the food as it drips, even faster, running their tongues through the cloth. That they may have access to the full width of the mouth of the bottle, place wire cloth between the frames and the bottle. The honey, or whatever is fed, will grow lower in the bottle rapidly. The feeding must be done on warm days, and in the middle of the day an entrance feeder may be used. This permits the bees to enter from the hive, and excludes outside bees.

Making Hives and Frames.

This is all that can be done with the bees themselves, but there is a great variety of other work in their behalf that can be, and ought to be done now. One of the attendant attractions of bee-keeping is its mechanical requirements.

Implanted and firmly rooted in many a Yankee is the desire to whittle, to play with sharp-edged tools, to spoil good lumber, "to make something." To such persons bee-keeping is adapted. The making of hives and frames, and a dozen other things needed in

the apiary, is simply pastime. Hives and frames may be bought in the flat, but their nailing is recreation. What man with a mechanical twist in his mind, does not like to drive nails, especially the clean, cleaving, clinching wire nails? With the hives and frames in holders, how merrily the bee-keeper sends them home (to the tune of a whistled melody) with a hammer of the right "heft!"

Apiarian Work-Shop.

The bee-keeper's work-shop is an institution by itself. Let us suppose that it is down under somewhere in a sheltered, cosy nook; that there is a good stove in it, or better, a big chimney with wide fire-place mouth. What a place to work, to whittle and to whistle, to sing the song of the saw, and to make that measured rub-a-dub with the playful hammer! And what satisfaction there is in the possession of a few good tools kept bright and sharp! If every farmer's boy had a place like this to attract his wandering wits, he would be less eager to fly to the city.

But there are 50 colonies of bees out in the orchard snugly packed in sawdust, and tucked in by a snow comforter. In May or June they will swarm, and 50 hives must be ready. No time then to hunt up a hive. As soon as spring has comes to stay, place the empty hives where they are to stand, each with full equipment.

Painting the Hives.

The hives should be painted. We depend upon the eye for a great deal of enjoyment. Get a pot of red paint, and a pot of white paint. After one hive is painted red, pour in enough white to fill the red pot again. The next hive will be a little lighter, and by the time the paint is all used, the last hive will be nearly white. Any man with an appreciative eye will say that the row of hives from bright red to white is an attractive feature in the landscape. Many a man will say, "I have not time for such nonsense," but he ought to have time to paint his hives, and it costs no more time or money to make hives attractive. If it should cost a little more, it pays—it pays to make things cheerful. I believe it pays to paint a hive two colors, if the bee-keeper wishes to sell bees—if he wishes to interest others in apiculture. Bright colored hives will win a customer where the old weather-stained boxes will make no impression.

Nailing Frames, Crates, etc.

The 50 new hives must have 10 frames each, or 500 in all. With a nailing block, a man may nail two a minute. Then they must be wired, and then the foundation put in—500 sheets—a hundred pounds. No small job is either, but only play in the sunny work-shop. If comb honey is the object, 50 crates will be required; a hundred had better be on hand, and 300 separators; or you may use wide frames, 6 in a hive, or 300 in all. Then the section boxes—1.500 for the first honey catch, in each of which is a starter, or a full sheet of foundation.

All this appears to provide for a mountain of work, but it is merely by-play between chores—between milking and feeding times.—*Country Gent.*

N. A. B. K. SOCIETY.

Some Opinions of its President on Several Subjects.

Written for the American Bee Journal
BY DR. A. B. MASON.

Mr. C. F. Muth, on page 787 of the BEE JOURNAL for 1887, says that he is "sorry that Toledo was selected for the next place of meeting of the North American Bee-Keepers' Society, and not Cincinnati." Such an expression would naturally be expected from a selfish person, but we all know that Mr. Muth does *not* belong to that class. He has the interest of the Society at heart, and had I known as much of the matter at the time Toledo was selected, as I do now, I should have worked hard, if necessary, to have had Columbus, O., selected. *I* did not make the motion, or even invite the Society, to meet here, but was certainly in favor of it, believing it to be the most acceptable place for those usually in attendance, being as it is midway between the East and the West, and *very* convenient for Canadian delegates.

As to the time, I was not aware of the time and place of holding the Ohio Centennial Expostion next year. It is to be held at Columbus, commencing Sept. 4, and continuing until Oct. 19, making 40 days, and not at Cincinnati, as would seem to be indicated by Mr. Muth; and I believe there are to be reduced railroad rates on all articles intended for the Exposition, for three months previous to Sept. 4, the time of the beginning of the Exposition, and I presume there will be reduced passenger rates on most, if not all railroads in the United States and Canada during the forty days of the Exposition, and for several days previous to and after, so that it will probably be cheaper to get a railroad ticket to Columbus and return, than it would be to Toledo and return, except for those living near Toledo; and notwithstanding my desire to have the meeting here, I am decidedly in favor, if it is possible to make the change, to have it held at Columbus during the Centennial Exposition.

Cincinnati is 116 miles, and Toledo 124 miles from Columbus, and as a larger number of bee-keepers attend the annual convention from the North than from the South, it seems to me that Toledo, at any time, is a more desirable place to meet than at Cincinnati, and especially so for those wishing to attend the Centennial Exposition; but if it can be changed, it will be better for all except those living near Toledo who do not care to visit the Centennial, for reduced rates can be taken advantage of to a greater extent than was possible to the Fat Stock Show at Chicago, and it is hardly probable that reduced rates can be had for Toledo.

It is not probable that any plan could be suggested for making the change, that would meet with universal approval, but I would suggest that we vote upon the matter, and that each member of the Society be requested to send a postal card to the President or Secretary, giving his vote for or against the change.

The only ones that can have a "reasonable excuse" against the change, except as above stated, will be the Michigan and Canadian members, and we all know they are wide-awake and always in favor of "good thing" when they see it.

The New Constitution and By-Laws.

I have this morning re-read for the third time the "Constitution and By-Laws" that the editor of the AMERICAN BEE JOURNAL presented to the convention at Chicago last November, with which to organize "The Inter-National American Bee-Association;" and each time I read it I was more and more thoroughly surprised that the committee to which it was referred, on my motion, composed as it was of such men as Prof. Cook, W. Z. Hutchinson, and A. I. Root, should "recommend that the consideration of the matter be postponed for one year."

I will admit that I have always been opposed to the converting of the present organization into one composed of delegates from "affiliated local associations," for fear it could not be made a success; but had I read what Mr. Newman had prepared, and which was referred to the above committee, I should, with some slight alterations, have moved its adoption. It seems to me that to have adopted it would have been making quite a step towards a thorough organization of the bee-keepers of the Continent, and I hope that this or some similar plan will be adopted at the next meeting.

Auburndale, Ohio.

[We think that the change suggested can very easily be made, and it should be done. The Executive Committee

should confer by letter, and, if they deem the change desirable, they have full power under the Constitution to make it, and the members of the Society will thank them for doing their duty promptly and efficiently.

As to the new Constitution and By-Laws we presented at the Convention, nothing will be lost by a full discussion of each important feature before its adoption.—ED.]

THE PAST SEASON.

Results of the Year in an Apiary of 50 Colonies.

Written for the American Bee Journal
BY J. F. LATHAM.

In the spring of 1887 I had 50 colonies of flying bees, the number of colonies that I put into winter quarters the fall previous. After they had become well advanced in brood-rearing, 2 colonies became queenless, and their bees and brood were given to other colonies. I sold 2 colonies, leaving 46 with which to commence the season's operations.

For a week after the willow bloom had become abundant, my bees never displayed more energy in building up. Inclement weather followed, and its consequent, dwindling. Soft maples yielded considerable nectar, and the bees worked on their bloom quite freely; but the apple bloom was a failure, its nectar being absorbed by a ten-days' rain-storm. As there is but little bloom during the interval from fruit-bloom to that of wild raspberries and white clover, constant nursing was required to get the bees in proper condition for the surplus season of about 35 days, which is about the average length in this vicinity.

A week of very fine weather during the first part of June inaugurated swarming with a rush; but a week of cold rain following, put a "dampener" on active operations for awhile; then followed intervals of rain and sunshine, until July 7, when swarming closed with 13 new colonies from 18 swarms, thus increasing my apiary to 59 colonies.

During the remainder of July the rainy weather retarded the storing of surplus, but 5 of the new colonies stored sufficient honey for winter use. By Aug. 20, I had removed the surplus fixtures. The fall bloom was abundant, and the weather was favorable, so that all of the colonies, with the aid of a distribution of 275 pounds of granulated sugar made into syrup, obtained enough for winter stores.

I have sold, so far, 753 pounds of honey in the comb, and have, at a safe estimate, 500 pounds on hand; not a very favorable showing in favor of a "specialty" in bee-keeping, with the production of "comb honey" for a basis. About 500 sections of my crop this year was filled and finished to the perfection desirable in a first-class article; the balance of the sections will weigh about ¾ of a pound each.

I have now 59 colonies packed on the summer stands for wintering, and, from outward appearance, they are enjoying the quietude desirable for safety.

Cumberland, ♀ Me., Dec. 19, 1887.

ALSIKE CLOVER.

Directing When and How to Sow the Seed.

Written for the American Bee Journal
BY M. M. BALDRIDGE.

The time is close at hand when honey-producers should see to it that their neighborhoods are supplied with the seed of Alsike clover—the best honey-plant, on many accounts, now known

ALSIKE CLOVER.

in the United States. The following has just been received by the writer from a honey-producer near Terre Haute, Ind.:

"Having read several articles from your pen in regard to Alsike clover, I now desire to ask you for some advice. I have now located my apiary of 96 colonies upon a 30-acre farm, close to the limits of this city. Some 10 acres of this land were seeded down two years ago the coming spring, with timothy and red clover. The crop then growing was oats, and the summer being dry, the grass seed did not make a good catch. It was, therefore, re-seeded last spring with timothy and red clover, where necessary, and a pretty fair crop of hay was secured; but, in many places, owing to the severe drouth, the grass is once more badly injured. In general, however, the seeding is in good condition. Now I wish to seed this land with Alsike clover. Would it do to sow the Alsike upon it, and without any special preparation, say in February? If so, how much seed would you advise to the acre?"

In reply I would say, that no special preparation of the land is necessary for Alsike. Yes, sow the Alsike in February, or at any other time the present winter, or very early in the spring. The snow and spring rains will then drive the Alsike seed into the ground, and will insure its certain and early germination. And, besides, you will stand a good chance to get more or less honey from the Alsike blossoms the present year.

Two pounds of the Alsike seed will be plenty for an acre when thus mixed with red clover and timothy—and this is the proper way to grow Alsike successfully in a climate subject to drouth. The red clover is needed for *shade* during a dry spell of weather, and the timothy is also needed to hold it up and away from the ground. When thus grown, the Alsike will grow and produce honey in case the red clover grows. If wanted for seed, never mind the timothy nor the red clover. If wanted *free* from timothy seed, you can cradle off the heads of the timothy before you cut the Alsike, and this will secure that result.

It is not very generally known that pastures and meadows can be supplied with Alsike, at pleasure, but such is the fact. And a very good time to seed them is also in July or August. If we then have plenty of rain, the Alsike will make such a growth during the autumn, as to insure a crop of both hay and honey the following season.

It will pay honey-producers generally, wherever red clover and timothy can be grown, to give Alsike clover a thorough and immediate trial as herein indicated. And whether you have or have not land of your own to give it a trial upon, it will also pay you handsomely to induce all your neighbors, within bee-flight of your apiary, to give it a trial for simply its hay and pasture. One of the very best and most successful ways to do this is to place the "Alsike Clover Leaflets" in their hands, so they can acquaint themselves with its value to them as a hay and pasture plant. The Leaflets are by no means expensive, and they can be

had at the office of the AMERICAN BEE JOURNAL. Please give them a trial.

St. Charles, ♁ Ills.

PACKING BEES.

Some Practical Advantages of the System.

Written for the American Bee Journal
BY SAMUEL RAU.

On page 788 of the BEE JOURNAL for 1887, is an article on the above subject by Mr. J. A. Buchanan, with which I cannot quite agree. This may not seem altogether strange, as we have long since heard that doctors will disagree.

Mr. B. commences by asking, "What is there in the idea of packing bees for winter?" and says that he voices the answers of a great many bee-keepers in his locality when he says, "Nothing at all." Astonishing revelation!

Then to clinch the argument on both sides of the problem, he asks: Why is it that we see, after a terrible, long, cold winter, so many reports like the following? 'I put a splendid apiary into winter quarters; the hives were thoroughly packed after the most approved manner, but there are only a few feeble colonies left to tell the story;' and thereupon concludes within himself that, "when I see such frequent reports like the above, it is 'giving away' the packing system without reserve."

He then attempts to account for the bees dying in packed hives, during long and severe winters, by saying that the sun cannot revive them sufficiently during "let up" weather to make cleansing flights. Well, that would depend upon how much of a "let up" there was, whether bees in a packed hive could make a cleansing flight or not.

I do not want my bees to fly out every time a little sunshine strikes the hives, or I might get too much of a good thing: and just here is where the packing serves a good purpose—there is a more uniform temperature in a packed hive, independent of surrounding circumstances. But, if my bees are very much in need of a cleansing flight, I remove the covers, during "let up" weather, and allow the sun to shine upon them, and I assure you that they wake up soon enough for all practical purposes.

Bees in a single-walled hive must consume more food to enable them to keep up enough animal heat to keep from perishing in severe weather, and consequently they need more cleansing flights. Then if Old Sol's smiles are too long deferred, it plays sad havoc with the poor bees that are domiciled with but ⅞ of an inch between them and Boreas' chilling frowns.

It seems to me that it would be just as reasonable to argue that a house without lining would be as comfortable during winter in our climate, as one that was duly lathed and plastered, because perchance a few rays of the sun would have a more animating influence upon it than if the walls were thicker. But I think that most reasoning people would at once conclude that the cold would influence it as readily, and as there would be a great preponderance of cold weather, the bad results would out-weigh the good a thousand fold.

I think that it is not best to jump so suddenly into extreme conclusions, if disaster has at times befallen bees in our extreme climate, that were duly packed, for there are other factors than this one of packing, in the wintering problem, which it is not necessary to enumerate here.

I have had all the experience that I want, in trying to winter bees in single-walled hives. I have lost hundreds of dollars worth of precious bees in that way, and I want "no more in mine," of that thing. More than 20 years of sad experience in that line, confirms me in the belief that trying to winter bees, unprotected, on the summer stands, is no paying business in this section of the country, to say the best for it.

I want the brood-chamber contracted according to the size of the colony, with a Hill's device and a good cushion on top, and 3 or 4 inches of good, dry packing around the outside of the hive, using an outer case for that purpose, with a water-proof roof and a proper entrance; then, for some reason or other, I can sleep much better at night, when the cold winds howl about my windows, and the mercury goes below zero. More than that, I want the packing left on until warm weather has come to stay, which is about the time I begin to think of making preparations for putting on the surplus arrangements.

After several years' experience, I find that spring packing serves a very useful purpose during brood-rearing, and I believe that Mr. Hutchinson is right in recommending spring packing for colonies that have been wintered in the cellar. It makes a good deal of labor, but it will pay well in dollars and cents for the time spent. Our changeable climate often seriously interferes with successful brood-rearing, but by this kind of protection we can, in a measure, counteract these untoward circumstances; and more, where this is done there will be less occasion to talk about spring dwindling.

Columbiana, ♁ Ohio.

BEE CELLAR.

Great Mortality among Bees. What is the cause of it?

Written for the American Bee Journal
BY A. PINKERTON.

I put 156 colonies into the cellar last winter, and I think that I carried out between 2 and 3 bushels of dead bees during the winter and spring. Some of the hives seemed to have ten times as many dead bees in front of them as others. Will some one please tell me the cause for this great mortality of bees in my cellar?

I will give a description of my bee-cellar: The size is 17x24 feet, and 7 feet high. It is divided into three rooms, with building paper, but I leave the doors open between them, except when I am carrying bees in and out. I have one under-ground ventilator entering the south room; it is made of 4-inch tiling. Each of the two north rooms has a ventilator put in through the window; these are made of boards, and are 4 inches square inside. Then there is one of the same kind on the east side. I put one down on the outside, with an elbow on it, and run it under the wall; it comes about 4 feet inside the wall in the bottom of the cellar. In very cold weather I partly close, and sometimes entirely close, both of the north ventilators, but leave the others open. The mercury ranges from 38° to 54°, but generally it is about 44°. Is such ventilation injurious to bees if the cellar is kept at the right temperature? I have 122 colonies in the celllar now, that I put in on Nov. 17 and 18. They are very quiet, but there are many dead bees in front of some of the hives.

Marshalltown, ⊙ Iowa.

[No; such ventilation ought not to be injurious to the bees.—ED.]

POOR SEASON.

White Clover Killed and Basswood Becoming Scarce.

Written for the American Bee Journal
BY. L. G. REED.

My 45 colonies of bees are packed on the summer stands. My surplus for the past season was 237 pounds from 37 colonies, spring count; the poorest season ever known in this section; but my enthusiasm is not chilled any yet, and I shall try and make up next season what I have lost this season; although I do not look for big results any more in this vicinity, until there is a change in the climate. The long, dry summer and cold, snowless winters

have nearly annihilated the white clover; this being our main source for surplus honey.

There used to be large quantities of basswood abounding on the bottoms of our streams, but that is a thing of the past, and what little there is left does not seem to yield any nectar, for I have watched them closely for the past five years, during its bloom, and I have not found bees working on it to any extent during that time. I can well remember, when a boy, of going among the basswood and finding them just roaring or swarming with bees.

I am well satisfied that our farmers ought to take hold of this thing, and plant for honey, the same as for other crops, and thus make bee-keeping much more profitable.

Kent, O., Dec. 24, 1887.

BEES AND GRAPES.

The Grape Industry in Ohio, and the Baltimore Oriole.

Written for the American Bee Journal
BY G. A. ADAMS.

One can but laugh at the poor old man, mentioned on page 803 of the BEE JOURNAL for 1887, who "lost the entire products for two years of fifty vines taken by the bees!" and who conceived "that the entire grape industry has been almost entirely killed in Ohio" by the bees. We must laugh, for we cannot help it. Such credulity, such alarm, and such a mighty crop of grapes! Fifty vines! Now the bees must go!

I wonder what the writer of the above quotations would think, if he were to be taken into a township east of Cleveland, in which are more than 2,000 acres of grapes being planted. South of here, on the Maumee river, is one farm that has 20 acres; another that has 12, and dozens that have from 1 to 6 acres; and then the islands near Sandusky, O., send grapes to Toledo every fall by the steamboat load.

The Ohio State Horticultural Society has just held its annual meeting at Toledo. The opinions of such observers as Geo. W. Campbell, the Secretary, and other close observers, was declared to be, that the "Baltimore oriole" is the "chap" that opens the most of the grapes, doing it before such wiseacres, as the Iowa man, are out of bed.

I have a little vineyard of about an acre, and though there were 50 colonies of bees within 20 rods of it, they opened not a grape, nor troubled me in the least. The oriole had begun its work before I began picking, and of course the bees followed it. But the oriole disappeared as soon as picking commenced, and I sold over a ton of grapes from the vineyard.

That does not look as if the industry was destroyed, or even injured by my neighbor's bees. Do send the Iowa man the facts, before he gets himself into a world of trouble, for not *using his eyes* before he "jumped."

Perrysburg, Ohio.

[Quite often the "ignorant ranting" of such scribblers as the one referred to by us on page 803, gets men into trouble. Such stupid "blunders" have made whole cities blaze from the torch, have put men and women to the "rack," have set armies to fighting, and have often done untold mischief. It is deplorable, that under the full blaze of the light of a nearly-completed "nineteenth century," such opinions and advice should find place in a public journal. The *Messenger* should take care and see that its "advice" is not "carried out," or there may be more "trouble" for it than it expects. —ED.]

HIVES AND FRAMES.

Points in Favor of the Large Hives and Frames.

Written for the American Bee Journal
BY A. L. LEACH.

Mr. J. M. Hambaugh, in his article on page 804 of the BEE JOURNAL for 1887, makes some points in regard to large frames, to which I wish to add a little. Large hives and frames have their advantages over small ones, in most good honey-producing localities. I have been able to get larger returns from them, and with less labor.

In Mr. Quinby's book, in 1865, he referred to large hives, non-swarmers, etc. In 1883 I made four different sizes of frames from the Langstroth size up to 9¾x20¼, of which size I can use the same number as of the standard Langstroth, without getting too much stores lodged in the brood-nest, in the way I use them. I like this one better than a deep, square frame which I have used in the same yard, and which is of about the same capacity.

I also think that the sectional brood-chamber is a good small-frame hive, which I believe will be best in some localities, especially where one gets his returns from a large number of colonies.

In reply to a question which appeared in the AMERICAN BEE JOURNAL about last February, in regard to non-swarming hives, Dr. Miller said that it was for me to demonstrate. I am not quite ready to say that I have found it, but I expect to do so soon. No doubt there are many who would like to know the advantages they have missed by not knowing all they could do with a large frame. Let us hear more from those using large brood-chambers.

Dwight, Ills.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Jan. 7.—	Susquehanna County, at New Milford, Pa. H. M. Seeley, Sec., Harford, Pa.
Jan. 10.—	Cortland Union, at Cortland, N. Y. R. L. Weaver, Sec., Dryden, N. Y.
Jan. 10, 11.—	Ontario, at Woodstock, Ont. W. Couse, Sec.
Jan. 10, 11.—	Ohio State, at Columbus, Ohio. Frank A. Eaton, Sec., Bluffton, O.
Jan. 11.—	Nebraska State, at Lincoln, Nebr. Henry Patterson, Sec., Humboldt, Nebr.
Jan. 17,18.—	N.W. Ills. & S. W. Wis., at Rockford, Ill. D. A. Fuller, Sec., Cherry Valley, Ills.
Jan. 18, 19.—	Vermont State, at Burlington, Vt. R. H. Holmes, Sec., Shoreham, Vt.
Jan. 17-19.—	New York State, at Utica, N. Y. G. H. Knickerbocker, Sec., Pine Plains, N. Y.
Jan. 20.—	Haldimand, at Cayuga, Ontario. E. C. Campbell, Sec., Cayuga, Ont.
Jan. 25, 26.—	N. E. Ohio, Northern Pa. and W. New York, at Meadville, Pa. C. H. Coon, Sec., New Lyme, O.
Apr. 24.—	Des Moines County, at Burlington, Iowa. John Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Bees Wintering Well.—Chas. D. Barber, Stockton, N. Y., on Dec. 22, 1887, writes:

My bees are wintering well, and have plenty of honey. I have them in the cellar, and a few bees crawled out of the hives and sipped some cider for 3 or 4 days.

Temperature in a Bee-Cellar.—H. Hastings, Willapa, Wash. Ter., on Dec. 14, 1887, writes:

Bees did splendidly here the latter part of the season, several of my colonies storing over 100 pounds of honey in the sections, and nearly all have stored honey since July. They have plenty of stores for winter. I have 57 colonies in a bee-house, double-walled and packed with sawdust, and it is too warm for the bees. It is difficult to keep the temperature below 50° above zero. I open the door every evening and leave it open all night, and in the morning the temperature is about 45°. The weather is so warm that it is difficult to keep the tempera-

ture low enough. Every evening I find it 50°, and sometimes above that. I have the house well ventilated, but the weather is so warm that it is difficult to control the temperature. What shall I do? I think I will put the bees out, if the weather does not change soon.

[Either the cellar may be cooled by placing some ice in it, or the bees may be placed on the summer stands.—ED.]

Added many Dollars to his Income, etc.—C. Theilmann, Theilmanton, Minn., on Dec. 19, 1887, writes thus, when renewing his subscription for 1888:

I never paid a dollar more cheerfully, as you have put many dollars into my pocket, by advising bee-keepers to wait for good prices for the past crop. I would probably have sold one-half of my crop at about 12½ cents per pound, but I held it, on the strength of your advice, and sold it for from 15 to 20 cents per pound. Please accept my thanks.

So far we have had nice weather, excepting a couple of cold spells, with 33° below zero on one of them, and about 4 inches of snow; but the last 24 hours it has been snowing, and is still at it. The show is about one foot deep, and 28° above zero.

An Apicultural Treasure.—Geo. McCormick, Russell, Iowa, on Dec. 26, 1887, says:

I disposed of my bees two years ago, but I cannot afford to do without the AMERICAN BEE JOURNAL. Its attractive and convenient form, its able editorials, and its vigorous defense of bee-keeping against the enemy, together with the masterly discussions of its excellent correspondents, all go to make up a paper that is a treasure to progressive apiarists, and can be read with profit by all lovers of progress.

How the Bees are Wintering.—John Nebel & Son, High Hill, Mo., on Dec. 28, 1887, writes:

At this date our bees are quietly resting in the cellar; they seem to be in almost a dormant state. The temperature in the cellar has ranged from 35° to 40° in the past two weeks; the temperature out-doors this morning is 6° below zero. The mercury fell 40° in 12 hours. We think that bees wintering in the cellar will get through this winter in a fair condition. The past season has been so poor that bees did not make enough to winter on, especially to winter out-of-doors, with so few bees and insufficient stores, in which condition all the colonies were, that were not heavily fed during August.

Fully three-fourths of the bees in this county died during October and November, long before cold weather began. When inquiry is made now as to how the bees were getting along the last time when examined, we get the pitiful answer that they are all dead—starved! With a great deal of extra work and feeding we have now 200 colonies (100 in each cellar) wintering, that we think will come out in the spring in good condition. Has the loss in bees been as great everywhere? Will bee-keepers, when sending a report, also please state about what the losses of bees are in their vicinity?

Well Provided with Food.—W. Addenbrooke, North Prairie, Wis., on Dec. 29, 1887, writes:

I wintered 130 colonies without the loss of a single colony, and in the spring I sold 22 colonies, which left 108. These I increased to 120, which are now wintering in the cellar, all well provided with stores from buckwheat. They were only able to make a fair living until buckwheat blossomed, so that alone saved me a large amount of feeding. My bees stored only 200 pounds of white clover honey in sections. I hope for a better season the coming year.

Fastening Foundation.—E. F. Rowe, Granite Falls, Minn., on Dec. 23, 1887, writes:

To fasten foundation in sections I cut it the size wanted, fold the section, place the foundation in it from left to right about ¼-inch beyond the saw cut, and hold it firmly with the left hand. I fasten it with a putty chisel, or any round, smooth instrument dipped into a saucer of extracted honey, and rub lightly at first over the foundation, and increase the pressure, rubbing the foundation down, up to and a little beyond the saw cut. I then bend the foundation to an upright position. I think this way is as quick, and will give as satisfactory results as any.

Raspberries for Bees.—Walter Harmer, Manistee, Mich., writes:

In reply to the query of C. A. Bunch about raspberries, on page 735 of the BEE JOURNAL for 1887, I would say that I have cultivated the "Philadelphia" for about 5 years, and they have only winter-killed a little one winter, and that was the last one. It is a large purple berry when well ripened, and for a local market I think it cannot be surpassed. Bees work on them in season, and by placing the hives between them on low stands, they afford considerable shade.

Bee-Keeping in Texas, etc.—B. F. Carroll, Dresden, Texas, on Dec. 20, 1887, writes:

Last year the drouth cut short all crops, but we got half a crop of honey, and bees went into winter in good condition. In April I had 50 full colonies of pure Cyprian bees, and as it was very dry, I fed a barrel of sugar. The drouth continued until Aug. 27, when the great flood of 18 inches of water fell in eight hours. By this time my bees were very weak, many queenless, no drones, and not 5 pounds of honey per colony. Many colonies dwindled away, and now I have 30 colonies.

I sold 4 colonies for $40, and for 10 queens, $10. I fed 300 pounds of sugar at 7 cents a pound, $21, and I will have to feed 300 pounds more as soon as Jan. 15. Corn averaged 10 bushels per acre; wheat 5 bushels; oats 10 bushels, and cotton one-sixth of a bale. I have lived here for 40 years, and this year has been nearer a complete failure than any other. It will be "nip and tuck" for many of us farmers to make another crop.

CONVENTION NOTICES.

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa.
JOHN NAU, *Sec.*

☞ The annual convention of the Vermont State Bee-Keepers' Association will be held at the Van Ness House, in Burlington, Vt., on the Jan. 18 and 19, 1888.
R. H. HOLMES, *Sec.*

☞ The Ontario Bee-Keepers' Association will hold its annual meeting at Woodstock, Ontario, on Tuesday and Wednesday, Jan. 10 and 11, 1888.
W. COUSE, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold their annual meeting at Cortland, N. Y., on Tuesday, Jan. 10, 1888, for the election of officers and to transact such business as may come before the meeting. All bee-keepers are invited.
R. L. WEAVER, *Sec.*

☞ The Susquehanna County Bee-Keepers' Association will meet at New Milford, Pa., on Jan. 7, 1888. Subjects for discussion: "The Best Way to Prevent Swarming," and "Is it Advisable to Italianize Colonies?" All bee-keepers are cordially invited.
H. M. SEELEY, *Sec.*

☞ The annual meeting of the Northwestern Illinois and Southeastern Wisconsin Bee-Keepers' Association will be held in G. A. R. Hall, corner of State & North Main Sts., in Rockford, Ills., on Jan. 17 and 18, 1888. Dr. Miller will be present, and a good programme is in course of preparation.
D. A. FULLER, *Sec.*

☞ The Northeastern Ohio, Northern Pennsylvania and Western New York Bee-Keepers' Association will hold its ninth annual convention in the Commercial House Parlor, in Meadville, Penn., on Wednesday and Thursday, January 25 and 26, 1888. Reduced hotel rates have been secured.
C. H. COON, *Sec.*

Business Notices.

OUR CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The American Bee Journal	1 00..	
and Gleanings in Bee-Culture	2 00..	1 75
Bee-Keepers' Magazine	1 50..	1 40
Bee-Keepers' Guide	1 50..	1 40
The Apiculturist	2 00..	1 80
Canadian Bee Journal	2 00..	1 80
Canadian Honey Producer	1 40..	1 30
The 7 above-named papers	5 40..	5 50
and Cook's Manual	2 25..	2 00
Bees and Honey (Newman)	2 00..	1 75
Binder for Am. Bee Journal	1 60..	1 50
Dzierzon's Bee-Book (cloth)	3 00..	2 00
Root's A B C of Bee-Culture	2 25..	2 10
Farmer's Account Book	4 00..	2 20
Simmons' Non-Swarming	1 50..	1 25
Western World Guide	1 50..	1 30
Hedden's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75..	1 50
Convention Hand-Book	1 50..	1 30
Weekly Inter-Ocean	2 00..	1 75
Iowa Homestead	2 00..	1 90

One yearly subscription for the AMERICAN BEE JOURNAL must be ordered with each paper or book, in order to take advantage of the prices named in the last column.

We pay 20 cents per pound, delivered here, for good Yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

We Supply Chapman Honey-Plant seed at the following prices: One ounce, 40 cts; 4 ounces, $1; ½ pound, $1.75; 1 lb., $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Sweet Clover, (*Melilotus alba*), furnishes the most reliable crop of honey from July until frost, and at the same time it furnishes the most delicious honey, light in color, and thick in body. It may be sown in waste places, fence corners, or on the roadside, at any time of the year.

Sow two years running, on the same land, and the honey crop will be without intermission. Money invested in Sweet Clover Seed will prove a good investment. The Seed may be obtained at this office at the following prices: $6.00 per bushel (60 lbs.); $1.75 per peck, or 20 cents per pound.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Red Labels for one-pound pails of honey, size 3x4½ inches.—We have now gotten up a lot of these Labels, and can supply them at the following prices: 100 for $1.00; 250 for $1.50; 500 for $2.00; 1,000 for $3.00; all with name and address of apiarist printed on them—by mail, postpaid.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lb. sections 18@20c.; 2-lbs., 16@18c.; dark 1-lbs. 17@18c.; 2-lbs. 15@16c. Extracted, firm at 7@10c., depending upon the quality, and style of package. Dark, 2 or 3 cts. below above quotations. Receipts light and demand fair.
BEESWAX.—22@23c.
Dec. 20. S. T. FISH & CO., 189 S. Water St,

CHICAGO.

HONEY.—Prices range from 18@20c. for best grades, with light demand; 2-lb. sections, 15@16c. Dark is not wanted. Extracted is steady at 7@10c., according to style of package.
BEESWAX.—20@23c. R. A. BURNETT,
Dec. 7. 161 South Water St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 19@20c. Extracted, 11@12c. Demand brisk
BEESWAX.—21@23c.
Dec. 15. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lbs. sections sell at 19@20 cts. Extracted, 7@8c. Demand small.
BEESWAX.—22@25c.
Dec. 15 A. C. KENDEL, 115 Ontario St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 16@19c.; the same in 2-lbs., 14@16c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c. Market dull.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Dec. 20. 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote: Choice white 1-lbs., 18@20c.; dark, 16@18c.; choice white 2-lbs., 18c.; dark, 15 to 16c. Extracted, white, in 60-lb. tin cans, 9c.; in barrels, 8c.; dark, in barrels, 5@6c. California 2-lb. white comb, 18c.; dark, 16c. Extracted, white, in 60-lb. cans, 8@9c.; amber, 8c.
BEESWAX.—No. 1, 20c.; No. 2, 16@18c.
Dec. 19. CLEMONS, CLOON & CO., cor 4th & Walnut

ST. LOUIS.

HONEY.—Choice comb, 18@20c.; latter price for choice white clover in good condition. Strained, in barrels, 5@6c. Extra fancy, of bright color and in No. 1 packages, ½-cent advance on above. Extracted, in bbls., 6½@7c.; in cans, 7 to 9c.—Short crop indicates further advance in prices.
BEESWAX.—20c. for prime.
Dec. 19. D. G. TUTT & CO., Commercial St.

CINCINNATI

HONEY.—We quote extracted at 4@9c. per lb. Choice comb, 16@20c., in the jobbing way. The demand for extracted exceeds arrivals, and for comb the demand is tame.
BEESWAX.—Demand good—20@22c. per lb. for good to choice yellow, on arrival.
Dec. 12. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17@19c.; fancy 2-lbs., 15@16c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Extracted, white, 9@10c.; buckwheat, 6@7c.
Demand has slackened some, and to make sales we must shade above prices. About Jan. 15 we expect a more active demand.
Dec. 31. F. G. STROHMEYER & CO., 122 Water St

PHILADELPHIA.

HONEY.—Fancy white 1-lbs., 18@19c.; fair 1-lbs 17c.; dark 1-lbs. are slow sale at 14@15c.; fancy 2-lbs., white, 15@16c.; buckwheat fancy 1-lbs., 13@14 cts.; common, 12c. Prices tend downward.
BEESWAX.—23@24c.
Dec. 11. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lbs., 20c.; fair, 19@20c.; 2-lbs., 18@19c.; 3-lbs., 16@18c. White extracted in kegs or half-barrels, 9½@9¾c.; in pails or cans, 9½ to 10c.; amber, in ½-barrels, 9¼@9½c.; dark in kegs and barrels, 7@7½c. Demand good, supply fair.
BEESWAX.—22@25c.
Dec. 15. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c; amber, 10@13c. Extracted, white liquid, 7@7½c.; amber and candied, 5¼@8½c. Market quiet.
BEESWAX.—20@24c.
Dec. 24. SCHACHT & LEMCKE, 122-124 Davis St

BOSTON.

HONEY.—New crop, 1-lb. sections, 18@20c.; 2-lb. sections, 17@18c. Extracted, 6@8c. The market is not very brisk and sales are only fair.
BEESWAX.—25 cts. per lb.
Dec. 10. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White comb, 17@19c.; amber, 12½@15c. Light amber to white extracted, 7½@8c.; amber, dark and candied, 6¾@7¼c. Market firm and stocks light.
BEESWAX.—22@23c.
Dec. 12. O. B. SMITH & CO., 423 Front St.

Only One Book of History with every club subscription to the AMERICAN BEE JOURNAL and New York *World*, is all that we can offer. The book is worth the whole money to be sent, and then you may consider the other two papers as a free gift.

Advertisements.

I HAVE 1 to 88 COLONIES of ITALIAN BEES in good condition, for Sale or Exchange. Size of frames, 11¾x11¾, 9½x17⅝, 10x15 in. Size of Nucleus frames as above. Can ship when weather permits.
OTTO KLEINOW, Detroit, Mich., (Op. Ft. Wayne Gate).

Send 75 Cents for my New Book—"A Year among the Bees;" 114 pages, cloth bound. Address,
DR. C. C. MILLER,
20Atf MARENGO, ILLS.

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column.

THE BEE-KEEPERS'
REVIEW.

ABOUT Jan. 10, 1888, we shall begin the publication of a 16-page monthly having the above title.

As indicated by its name, one of its distinctive features will be the **reviewing** of current apicultural literature. Errors and fallacious ideas will be faithfully but courteously pointed out, while nothing valuable will be passed unnoticed. But few articles will be copied entire, but the ideas will be extracted, given in the fewest words possible, and commented upon when thought advisable.

Another feature will be that of making each number, to a certain extent, what might be termed a "special" number. For instance a large share of the correspondence, editorials and extracts of the first number will be devoted to the subject of, "Disturbing Bees in Winter."

Our own apiary will, hereafter, be largely experimental, and of this our readers will have the benefit.

The price of the **REVIEW** will be 50 cts. per year; and while we have not the slightest objection to receiving subscriptions in advance, our only request is, that each one interested will send his address, and allow Uncle Sam to hand him a copy of the first issue as soon as it is printed.

The Production of Comb Honey,

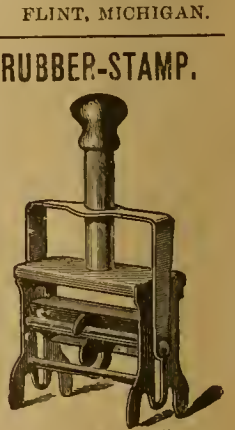
A neat little book of 45 pages, price 25 cts. The **Review** and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, **W. Z. HUTCHINSON,**
50Atf FLINT, MICHIGAN.

SELF-INKING RUBBER-STAMP.

2,000

Impressions for 10 cts. Will last a life-time. It prints Envelopes, Letter-Heads, Postal Cards, Sections, Clothing—everything. Your name, occupation and address, with the machine and a bottle of ink, by mail, for $1.00. Extra ½ bottles of ink for 12 cts. Show this adv't to your friends. Send me an order for 10 Stamps, & get your own free. Read what Editor Newman says of this Stamp on page 547. Agents wanted. Send for Catalogue and terms. Address,


THE "MIDGET."

GEO. T. HAMMOND,
BROCKPORT, Monroe Co., N. Y. 26Etf

Warranted Seed.

I have founded my business on the belief that the public are anxious to get their seed **directly from the grower.** Raising a large proportion of my seed enables me to warrant its freshness and purity, as see my Vegetable and Flower Seed Catalogue for 1888, **FREE for every son and daughter of Adam.** It is liberally illustrated with engravings made directly from photographs of vegetables grown on my seed farms. Besides an immense variety of standard seed, you will find in it some valuable new vegetables not found in any other catalogue. As the original introducer of the Eclipse Beet, Burbank and Early Ohio Potatoes, Hubbard Squash, Deephead Cabbage, Cory Corn, and a score of other valuable vegetables, I invite the patronage of the public.

JAMES J. H. GREGORY, Marblehead, Mass.

NOTICE.

BEE-HIVES and SUPPLIES,

SECTIONS, T-Tin Cases and Shipping-Crates, Bee-Smokers and Metal Corners, Honey-Extractors and Honey-Knives.

☞ Send for Price-List.

B. J. MILLER & CO.,
49D4t NAPPANEE, INDIANA.

Mention the American Bee Journal.

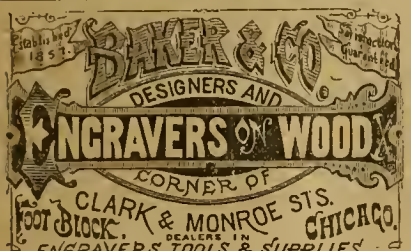
Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to

A. I. ROOT, Medina, Ohio.

Mention the American Bee Journal.



Mention the American Bee Journal.

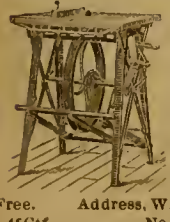
Patent Flat-Bottom Comb Foundation

High Side Walls, 4 to 14 square feet to the pound. Wholesale and Retail. Circulars and Samples free

J. VAN DEUSEN & SONS,
(SOLE MANUFACTURERS),
1Atf SPROUT BROOK, Mont. Co., N. Y.

Mention the American Bee Journal.

Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N.Y., says—"We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free.

Address, W. F. & JOHN BARNES,
45Ctf No. 484 Ruby St., Rockford, Ill.

Mention the American Bee Journal.

HEAD-QUARTERS IN THE SOUTH.

FACTORY OF

BEE HIVES, &C.

Early Nuclei & Italian Queens.

☞ Ninth annual Catalogue now ready.

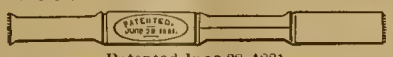
5Ctf **PAUL L. VIALLON,** Bayou Goula, La

Mention the American Bee Journal.

J. FORNCROOK & CO.,

MANUFACTURERS OF THE

"BOSS" One-Piece SECTIONS,



Patented June 28, 1881.

WILL furnish you, the coming season, ONE-PIECE SECTIONS as cheap as the cheapest. ☞ Write for prices.

Watertown, Wis., Oct. 25, 1887.

Mention the American Bee Journal.

A NEW BOOK ON

CABBAGE AND CELERY.

Full of new ideas and valuable information

Although actually worth many dollars to growers, a copy will be mailed free to any person who will send 2 stamps and the address of *three* or more extensive Cabbage, Cauliflower or Celery growers. Address

Isaac F. Tillinghast,
52A4t **La Plume, Lack'a Co., Pa.**

Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

☞ **If you wish to obtain the Highest Price for Honey this Season, write to Headquarters, 122 Water-street, New York,**

F. G. STROHMEYER & CO.,
Wholesale Honey Merchants.

Mention the American Bee Journal.

33A26t

The American Apiculturist.

—SAMPLE COPIES FREE!—

Address, **HENRY ALLEY,**
47Atf WENHAM, Essex Co. MASS.

Mention the American Bee Journal.

BEE KEEPERS

Should send for my circular. It describes the best Hives, the best Cases, the best Feeders and the best Methods. Address,

J. M. SHUCK,
DES MOINES, IOWA.

Mention the American Bee Journal.

1A4t

BEE-KEEPERS' Supplies, Queens, Nuclei, German Carp, Small Fruit Plants, &c. Send for Catalogue.-E. T. Flanagan, Belleville, Ill.

Mention the American Bee Journal.

1A1y

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

FOR SALE.

21 HORSE-POWER Upright Engine and 22 Boiler, with 3 Pulleys, 2 Belts and 16-foot Shaft. Only in use two seasons. Almost as good as new: with valves, cocks, steam-gauge, 20-foot smoke-stack and Hancock's injector. All completed. Will take $160 cash, on board the cars at Knoxville, Iowa. Cost when new, $237.50. For particulars enquire of

J. W. BITTENBENDER,
1Dtf KNOXVILLE, IOWA.

Mention the American Bee Journal.

$16 Buys our DAISY HARNESS, worth at retail $25. Sent to examine and return at our ex. $5.00 expense. Catalogue free. CHICAGO HARNESS CO., Wholesale Mfg., 375 Wabash Ave., Chicago, Ill.

1D3t

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

Bee-Keepers' Cards.

HEAD-QUARTERS!—Besides our beautiful 8-color Chromo Card, we have plain designs.—Fancy Cards, Stationery, Monograms for Business and Amusement, for old and young, at astonishing low prices. Circulars free. Package 25 Cards 10c. Neat package cards and sample honey-candies 15c.

Address **J. H. MARTIN,**
4A1y HARTFORD, Washington Co., N.Y.

Mention the American Bee Journal.

SAMPLE FREE

You have no idea what a nice Bee Magazine we publish.

Why not send for a Sample?

Not being connected with a supply business we have no ax to grind. **BEE KEEPER'S MAGAZINE, Barrytown, N. Y.**

50A4t

Mention the American Bee Journal.

Muth's Honey Extractor,

Perfection Cold-Blast Smokers,

SQUARE GLASS HONEY-JARS, etc.

For Circulars, apply to

CHAS. F. MUTH & SON,
Freeman & Central Ave., - CINCINNATI, O.

P.S.—Send 10c. for Practical Hints to Bee-Keepers

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

15,000 SOLD SINCE 1876.

7,000 Sold Since May, 1883.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, **$1.25.** Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
1A1y Agricultural College, Mich.

Mention the American Bee Journal.

LOOK HERE! DON'T READ THIS,

UNLESS you are engaged in producing honey. It will pay you to send for my **1888 PRICE-LIST.** It tells of something valuable. If you wish to have your honey crop in the best shape for market, do not fail to send me your address (written plainly) on a postal card. **A. M. GANDER,**
1Ctf (Box 591), ADRIAN, MICH.

Mention the American Bee Journal.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER,

IS published every week, at **10s. 10d.** per annum. It contains the best practical information for the apiarist. It is edited by Thomas Wm. Cowan, F.G.S., F.R.M.S., etc., and published by John Huckle, King's Langley, Herts, England.

Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

JANUARY PRICES.

FOR JANUARY, I will allow FOUR (4) PER CENT. on ALL ARTICLES in my Price List.

If parties who are wanting a QUANTITY of Goods, or Dealers wishing to stock up for the season of 1888, will send on a list of about what they want, I will be pleased to name lowest prices.

SECTIONS, planed on both sides, unless otherwise ordered.

Remember that my Goods are noted the world over for fine quality and workmanship.

☞ Try me and be convinced!

W. T. FALCONER,
Jamestown, N. Y.,

Manufactu'r & Dealer in full line Apiarian Supplies.
1Aly

Mention the American Bee Journal.

DADANT'S FOUNDATION

Is attested by hundreds of the most practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by the bees, least apt to sag, most regular in color, evenness and neatness of any that is made. It is kept for sale by Messrs.

THOS. G NEWMAN & SON, Chicago, Ill.,
C. F. MUTH, Cincinnati, O.,
JAMES HEDDON, Dowagiac, Mich.,
F. L. DOUGHERTY, Indianapolis, Ind.,
CHAS. H. GREEN, Waukesha, Wis.,
CHAS. HERTEL, Jr., Freeburg, Ill.,
E. L. ARMSTRONG, Jerseyville, Ill.,
Arthur Todd, 2122 North Front St., Philadelphia.
E. KRETCHMER, Coburg, Iowa.
EZRA BAER, Dixon, Lee Co., Ill.
M. J. DICKASON, Hiawatha, Kans.
ED. R. NEWCOMB, Pleasant Valley, N. Y.
J. W. PORTER, Charlottesville, Va.
J. B. MASON & SON, Mechanic Falls, Maine.
Dr. G. L. TINKER, New Philadelphia, O.
D. A. FULLER, Cherry Valley, Ills.
JOS. NYSEWANDER, DesMoines, Iowa.
ASPINWALL & TREADWELL, Barrytown, N.Y.
BARTON, FORSGARD & BARNES, Waco, Tex.
W. E. CLARK Oriskany, N. Y.
G. B. LEWIS & CO., Watertown, Wis.
PAUL L. VIALLON, Bayou Goula, La.
B. J. MILLER & CO., Nappanee, Ind.
ELBERT F. SMITH, Smyrna, N. Y.
J. MATTOCN, and W. J. STRATTON, Atwater, O.
OLIVER FOSTER, Mt. Vernon, Iowa.
SMITH & GOODELL, Rock Falls, Ills.

and numbers of other dealers. Write for SAMPLES FREE and Price-List of Supplies, accompanied with **150 COMPLIMENTARY** and **UNSOLICITED TESTIMONIALS** from as many bee-keepers in 1885. **We guarantee every inch of our Foundation equal to sample in every respect.**

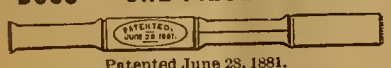
CHAS. DADANT & SON,
5Aly HAMILTON, Hancock Co., ILL.

Mention the American Bee Journal.

J. FORNCROOK & CO.,

MANUFACTURERS OF THE

"BOSS" ONE-PIECE SECTIONS,



Patented June 28, 1881.

WILL furnish you, the coming season, ONE-PIECE SECTIONS as cheap as the cheapest.
☞ Write for prices.

Watertown, Wis., Oct. 25, 1887.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.

Mention the American Bee Journal.

$500 BARGAIN! Car-load Bees and Supplies. Only $250 Cash. Speak quick!
5Aly O. N. BALDWIN, Clarksville, Mo.

G. B. LEWIS & CO.

WE make the best Bee-Hives, the best Sections, the best Shipping-Crates, the best Frames, etc., etc.
☞ We sell them at the Lowest Prices.—Write for free Illustrated Catalogue.

G. B. LEWIS & CO.,
37Atf WATERTOWN, WIS.

Mention the American Bee Journal.

1888.

NEW HIVE CIRCULAR

NOW READY,

ADDRESS,

JAMES HEDDON,

DOWAGIAC, MICH.

☞ None mailed unless ordered.

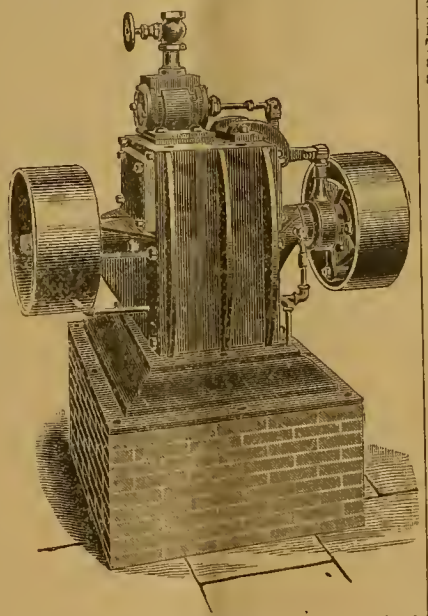
Mention the American Bee Journal.

A NEW ENGINE.

(ENTIRELY NEW INVENTION.)

WONDERFUL DEVELOPMENT OF POWER AND SPEED!

GREAT ECONOMY OF FUEL.



NO high-priced Engineers are required Any person can manage it. No angular push, or dead center. Friction almost entirely overcome. **It is the most compact Engine ever invented. It is perfectly governed.** We also warrant it to attain a **higher speed** and develop **more power** with **less fuel** than any Engine in use.

Manufactured at the Cedar Rapids High Speed Engine Works, of Cedar Rapids, Iowa.

☞ Send for a Circular. Address,

HENRY RICKEL, Pres.,
44Atf CEDAR RAPIDS, IOWA.

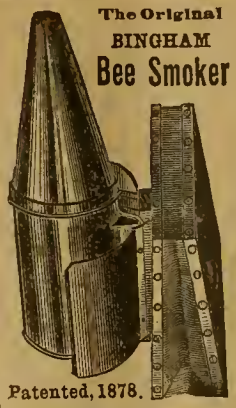
Mention the American Bee Journal.

Nothing Succeeds Like Success.

I HAVE made a success of producing Comb Honey for the past 9 years. My little pamphlet—"**How I Raise Comb Honey**"—briefly tells how I do it. By mail 5 cents. My Price-List of SUPPLIES, for 1888, free. Address,

GEO. E. HILTON,
51Atf FREMONT, MICH.

Mention the American Bee Journal.



The Original BINGHAM Bee Smoker

Patented, 1878.

ADDISON, Vt.—Have one of your smokers good yet—used 6 years. E. J. SMITH.

ELM GROVE, Mass.—Have one I have used six seasons—good yet. F. M. TAINTOR.

BORODINO, N. Y., Aug. 15, 1882.—All summer long it has been "which and t'other" with me and the Cyprian colony of bees I have—but at last you boss—Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. G. M. DOOLITTLE.

Bingham & Hetherington Uncapping Knife.

Patented May 20, 1879.

BINGHAM SMOKERS and KNIVES have Revolutionized the Smoker and Knife Trade, and have made bee-keeping a pleasure and a success. They are the only **lasting** and **satisfactory** Smokers and Knives now used by experienced bee-keepers in Europe, Australia, Cuba, and America. They are covered by patents, and while they are always the **best** that can be made, they are also the **lowest priced.**

Prices, by mail, post-paid.

Doctor smoker (wide shield)	3½ inch	$2 00
Conqueror smoker (wide shield)	3 "	1 75
Large smoker (wide shield)	2½ "	1 50
Extra smoker (wide shield)	2 "	1 25
Plain smoker	2 "	1 00
Little Wonder smoker	1¾ "	65
Bingham & Hetherington Honey Knife, 2 inch		1 15

TO SELL AGAIN, apply for dozen or half-dozen rates. Address,

BINGHAM & HETHERINGTON,
5Atf **ABRONIA, MICH.**

Mention the American Bee Journal.

SUPPLY DEALERS

AND OTHERS should write to me for SPECIAL PRICES on **BEE-SUPPLIES** for this fall and winter.

☞ **A heavy Discount allowed.**

Address, A. F. STAUFFER,
44Dtf STERLING, ILLINOIS.

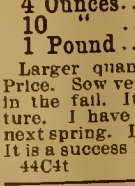
Mention the American Bee Journal.

The Chapman Honey-Plant.

PRICE OF THE SEED:

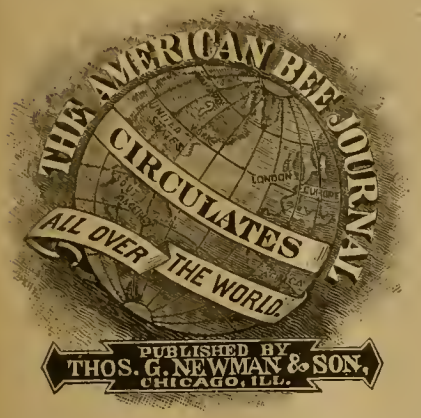
4 Ounces	$1.00
10 "	2.00
1 Pound	3.00

Larger quantities by Express at Reduced Price. Sow very early in the spring or late in the fall. It vegetates in a low temperature. I have twelve acres that will bloom next spring. I shall sow two acres this fall. It is a success! **H. CHAPMAN,**
44Ctf VERSAILLES, N. Y.



JUST PUBLISHED,
"PRACTICAL TURKEY RAISING"

By Fanny Field. This book tells all about turkey raising, from the setting of the eggs to the maturity of the young turks. If you follow the directions in this book you need not lose a bird. Fanny Field has had more experience and succeeds better in raising turkeys than any other person in America. She clears hundreds of dollars yearly on them, and will tell you how she does it. Price, 25 cents. Stamps taken. Address R. B. MITCHELL Publisher, 69 Dearborn St., Chicago, Ill.
9Ctf



THOMAS G. NEWMAN, Editor.

Vol. XXIV. Jan. 11, 1888. No. 2.

EDITORIAL BUZZINGS.

Flowers.—Just as the cold wave struck Chicago last week, we received by mail a nice bouquet of flowers from Louisiana—from our friend J. W. Winder, we expect. He usually does some such things. Welcome.

"Are the Bees our Friends?"—This is the subject assigned to Mr. Eugene Secor, for discussion at the annual meeting of the Iowa Horticultural Society at Des Moines, on Thursday of next week. We all expect something good from our friend Secor, and we have no doubt this will be "extra good." We shall present it to our readers as soon as that meeting is over.

Only a Few complete volumes of the BEE JOURNAL for 1887 are left, and those of our new subscribers who want to secure them should send for them at once. We supply the numbers for 1887 and 1888 for $1.75 until all of the former are gone.

Foul Brood is a dire calamity wherever it makes its appearance. Our friend, Mr. A. I. Root, says he has spent nearly a thousand dollars in experimenting in order to eradicate it. He admits that what we have often advised (viz: a total destruction of the hives, bees, etc.) would have been cheaper and more satisfactory. Many others have found out by experience that this would have saved them money as well as much annoyance. If the larva is elastic and ropy it is a sure indication of foul brood. This is a sure test, but the odor is not to be relied upon, for there is one kind of the disease that is known as "odorless foul brood."

Mr. T. W. Cowan, in a recent letter to us from Switzerland, his winter residence, remarks as follows concerning the weather there:

We are in the midst of winter, but as yet we have had no snow, and the temperature is very mild, and more like spring than winter. I am afraid our Canadian tobogganers will not be of much use here, but the children go half-an-hour's walk from here, up on higher ground, where there is plenty of snow and skating.

Then, in reference to the re-organization of the "North American Bee-Keepers' Society," and of his being elected a member thereof, he adds:

I see that you brought up the question of organization at the convention, and that you have proposed to organize your Society on the same lines as ours, and that the "rules" you propose are a modification of ours. We have found them to work well, and at the present time we could not better them. If there is any information you wish at any time about them, I shall be pleased to give it.

I have also seen the resolution passed by your Society, making me an honorary member. I am very much obliged to the members for doing so, and have written to Dr. Mason, asking him to convey my thanks, as he is the newly elected President.

The official notification sent by the Secretary, Mr. W. Z. Hutchinson, had not reached Mr. Cowan when he wrote the above. The letters passed one another in the mails. The cordial feeling existing between the apiarists of the two Continents, is a matter for congratulation, and we trust it may long continue. We have a lively interest in both Continents—being born in one and reared in the other.

We Understand that an effort is being made to have the United States Government include in its free distribution of seeds, the celebrated Chapman Honey Plant. Certainly bee-keepers should reap some benefit in this way as well as other avocations. We hope to hear of the success of the effort. Mr. Chapman has harvested 28 bushels of the seed, and the Government should scatter at least that much, and thus assist the pursuit, the same as it does others.

Horticulture and Bees.—At the recent meeting of the Ohio State Horticultural Society there was nothing in the programme about bees, and Dr. A. B. Mason gave them a good stirring up about it, by calling attention to the benefit "our pets" are to the horticulturist. We shall have proper recognition at the next annual meeting. Dr. Mason enjoys the "stirring up of their minds" to the importance of the industry.

Meadville, Pa.— The committee appointed at the last convention of the Eastern Ohio, Western Pennsylvania and Western New York Bee-Keepers' Association, which met at Andover, Ohio, last January, met and arranged to have the ninth annual convention held in Meadville, Pa., on the 25th and 26th of this month.

The Krainer Bees.—The "Bienen Zeitung" contains an article from Herr Michael Ambrozic, of Moistrana, Krain, Austria, on the Krainer bees. The writer is a very enthusiastic admirer of that variety, and gives some information concerning it in its native home. From his article we give the following extract:

The profits of the apiary in Germany and Austria, are estimated to be 45 per cent. on the capital invested. But bee-culture depends largely upon the hardiness of the race of bees, and their propensity to gather honey. Krainer bees, in these respects, must be preferred. The rough climate of our mountainous country has made our bees a hardy race, for they have been hemmed in by mountains for centuries. Our bees fly in dark and cool weather, and suffer very little from diarrhea and other spring maladies. The rich mountain meadows and forests of Krain, with their profusion of bloom, animate our bees in the spring, and we often find them flourishing in March and April, breeding early, and beginning early to swarm.

My apiary is situated but 1½ miles from the mountain Triglav, which is 9,000 feet above the level of the sea, and its north side is covered with eternal fields of ice, but for all that my hardy Krainer bees visit the herbs on the rocks in March and April, showing that they will succeed in any country, for they are used to rapid changes of temperature, and I can recommend them for importation to any country. Our bees are preverbially kind and gentle.

A correspondent who received a colony direct from Herr M. Ambrozic, says that "these bees are great beauties, being nearly black, with white stripes—the white being probably due to hairs, as they all seem to be young bees." About the hive in which they came from Krain, he says:

The hive to me is a curiosity, being made of tough, hard, rough boards, about 24 inches long inside, 14 inches wide, and 5 inches deep; top and bottom nailed with odd-looking hand-made nails, wooden pegs and wire nails; no frames inside; combs had been built diagonally, and were filled with dark-colored, thick, rich honey, about 20 pounds. It was quite a task to open this hive, but I did it, and found the Krainers lively, good natured, and so fond of honey that they all soon had their fill.

Their flight seems to be very strong, and I am inclined to think them large as compared with the Italians. It seemed odd enough to see these mountain bees flying very freely, with the mercury at 45°, when not a wing was to be seen about my other hives.

Concerning Books for bee-keepers, the "Southern Farm" remarks as follows about two books published at this office:

"Bees and Honey," by Thos. G. Newman, well-nigh embraces every particular about bee-keeping, which, if followed out, cannot fail to lead to great success in the apiary.

"A Year Among the Bees," by Dr. C. C. Miller, is one of those pleasant books that often go further to help to attain to success than a more complete manual. This work is replete with information regarding the necessary implements, plans, etc., of a complete apiary, and gives the results of 25 years' experience in bee-keeping.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

GLEANS OF NEWS.

THOMAS W. COWAN, ESQ.

Dr. A. B. Mason, President of the North American Bee-Keepers' Society, wrote us as follows on Jan. 3, 1888: "Yesterday I received the following from Mr. Thos. W. Cowan. Please insert in the AMERICAN BEE JOURNAL."

8 Avenue de la Gare, Lausanne,
Switzerland, Dec. 17, 1887.

DEAR SIR:—I see by the AMERICAN BEE JOURNAL that your Association has elected me an honorary member; therefore, I should be glad if you, as President, would convey from me the message that "I am extremely obliged for the honor conferred upon me by the North American Bee-Keepers' Society, in electing me, by an unanimous vote, an honorary member of the Society. I shall henceforth as a member take even a more lively interest in the welfare and progress of the Society than formerly, and more particularly as I have become personally acquainted with some of its leading members."....I read with much interest the proceedings at your convention, and regretted not being able to be present.

Yours truly, THOS. W. COWAN.
To Dr. A. B. Mason.

President Mason has sent us the following responsive letter for publication:

I am sure we all feel that in honoring Mr. Cowan by electing him as an honorary member of our Society, we honored ourselves, and were glad of so good an opportunity to show him, in a feeble measure, the high esteem in which he is held by the bee-keepers of America.

We should have been glad to have had Mr. Cowan with us at the annual convention at Chicago, so that we could have had the opportunity, in a more demonstrative way, to have shown him what a cordial greeting we could have given him. It would have been a rare treat to have had him, in his pleasant and inimitable way describe to us the wonderful things his powerful microscope would have shown us. The brief, but enjoyable visit I had with him, is set down as one of the bright spots in my life; and the very fine photograph of himself that was enclosed in his letter, will be a constant reminder of the visit to our land, of one of England's best and noblest men.

A. B. MASON,
Pres. N. A. B. K. Society.

P. S.—As the AMERICAN BEE JOURNAL and the "Canadian Bee Journal" are the only weekly bee-journals published, I send the above to them only, requesting other apicultural papers to copy same.—A. B. M.

From the handsome girl's head, lithographed in colors, nicely cut out, to the last slip of the pad, Hood's Household Calendar for 1888, is thoroughly artistic. Every month is beautifully engraved, and each slip as torn off presents a new and pleasing combination of color printing. Hood's Calendar easily leads the procession. It is nice enough for any parlor, and has so many excellent points in arrangement and convenience that it must be seen to be appreciated. Copies may be obtained at the drug stores, or by sending six cents in stamps to C. I. Hood & Co., Lowell, Mass.

Putting Bees into Cellars.—It has become quite common to give bees a flight during some warm spell in winter. To take them from the cellar and return them requires care, and some may inadvertently cause much damage by not knowing just how to do it. The "Canadian Bee Journal" gives these excellent suggestions about carrying the hives:

If the hives are carried in one at a time in your arms, the end of the frames should stand lengthwise from you, because if the frames stand sidewise, the sudden jar of moving causes them to oscillate, disturbing the bees, frequently breaking the clusters, causing them to gorge themselves with stores, and rendering the possibility of wintering more difficult, because of the fact that as it is usually warmer in the bee-house than out-doors at the time of carrying them in, they will not cluster again so tightly in the bee-house or cellar. If placed into winter quarters without being disturbed, they, of course, remain clustered in just that much more compact a form, and will not consume nearly so much food.

The same paper also gives these directions about how to prepare the hives for handling when first taking them in or when returning them to the cellar or bee-house:

Before we start to carry them in we close all the entrances, then if they should receive a slight jar that would otherwise disturb them, seeing no light they are not nearly as liable to become excited. The entrance-blocks are left on the hives in the bee-house until all are in. After making all dark inside, the entrance-blocks are removed, leaving the entrance full width.

Fire.—We are sorry to learn that Mr. S. H. Rickard, of West Bridgewater, Pa., has suffered a loss by fire. A local paper makes the following remarks concerning the misfortune:

Some time between 2 and 4 o'clock the residents of Bridgewater were awakened by the cry of fire, which was followed shortly after by the ringing of the foundry bell and the blowing of the Hob-Nail Works' whistle.

The residence of Mr. S. H. Rickard, on Water street, was burning, and the flames had already gained such headway that there was no thought of extinguishing it. The time in which to save the household goods was quite limited, and only a few of them were carried from the burning building, and many of these only in pieces, rendering them useless. In half an hour after the first alarm was heard, the house was a heap of smouldering ruins.

Fire caught in the kitchen, and is supposed to have been caused by the increase in the pressure of gas in the Heat and Light Company's main, from which gas was obtained.

The family was awakened by the noise made by the fire, and had barely time to escape. A domestic in the employ of the family ran in her night clothes to the stable, where she was compelled to remain until clothes were brought to her. Most of the clothing belonging to the members of the family was destroyed. The building and contents, together with the out-buildings, was insured in the Sun Fire Insurance Company, of London, England, for $900. It was valued by Mr. Rickard at at least $1,500.

In a letter Mr. Rickard recounts the loss in this language:

Besides the house and furniture, I lost several good colonies of bees, which took fire in the yard from the intense heat; and many more of them would have been consumed but I moved them out into the street, and into the adjoining lot. My barn was saved only by the prompt attention of a good colored man, who got in the "mow" and kept the hay well-soaked with water. Although the barn was on fire for several minutes, and burnt nearly all weather-boarding off of that side, it was saved. Should it have burned I should have lost 18 colonies of bees that I have in the upper story of the barn, but luckily they were saved. I have lost all of my bee-fixtures and extra hives, and shall have to begin anew.

Moving Bees in Winter.—Mrs. L. Harrison, in the "Prairie Farmer" for last week, makes these remarks on the above subject:

As a rule it is not best to disturb bees during cold weather. It arouses them to activity, and some of them get away from the cluster, become chilled and perish. The combs are brittle and break loose easily when it is cold.

Before I became a bee-keeper I thought that bees could not be moved in any other way than on runners, and have learned no better way since, if they must be moved during cold weather. Place hay or straw in the bottom of the sled, and take every precaution against a jar. Two very careful persons working together, might lift them so easily they would never know it. Places should be fixed to stand the hives upon, and they should be removed from the sled at once. If they are left in the sled over night, and the next day prove warm, they might fly out and get mixed up, and then be materially damaged.

In moving bees at any time of the year, it is well to put something in front of the hive to obstruct their flight—to bump their heads, as it were. This causes them to stop and consider where they are, and take the points of the compass.

I once moved bees late in autumn, from one part of the apiary to another, and the first time they flew, which was six weeks afterwards, they went back to their old stand. The next day I gathered up handfuls of them clustered where the entrance of their hive had formerly been.

New Catalogues for 1888 are on our desk, from the following persons:

Christian Weckesser, Marshallville, O.—20 pages—Queen-Bees, Garden Seeds, etc.

A. I. Root, Medina, O.—40 pages—Apiarian and other implements.

M. H. Hunt, Bell Branch, Mich.—12 pages—Bee-Keepers' Supplies.

Jacob Alpaugh, St. Thomas, Ont., sends sample section and comb foundation.

Snow around the hives is no detriment. It is porous, and enough air can penetrate it for ventilation in winter. When it forms ice at the entrance, then it must be cleaned away. An examination during and after a thaw is very necessary.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

BIOGRAPHICAL.

Mr. T. F. BINGHAM, APIARIST AND INVENTOR.

Many desire to know something more concerning the principal apiarists and inventors of the world, than can be obtained in the current literature concerning the development of the industry. In most cases this can be obtained more correctly, and in better form from the persons themselves than from any others. In the case of our present sketch, we concluded that this was particularly the case, and so, at our request, Mr. Bingham has furnished the following concerning his life and inventions :

My father's as also my mother's ancestors emigrated from England early in Colonial history. My mother's name was Kent ; her ancestors settled in Connecticut, while my father's settled in Massachusetts. My grandfather moved from Massachusetts to New Hampshire, where my father was born. My father, when a young man, moved to Vermont, where he married and became a farmer. My grandfather Kent was a farmer, and also kept bees, and made very handsome straw-hives—the time-honored kind now shown in print, to denote "industry." He gave my father a colony of bees in such a hive. Those bees and their progeny my father kept during the remainder of his life—about 50 years.

The subject of this sketch was born Jan. 22, 1830, in Woodstock, Vt., and early became accustomed to and familiar with the management of bees, and also the current bee-literature of the times. When 18 years of age I was invited by a watch-maker to learn the watch and jewelry business. Three years were so spent, and then being desirous of further perfecting my business, I accepted a position in a Boston house ; after which I was employed as a watch-maker in New York, Petersburg, Va., Columbus, Ga., and Cincinnati, O. I then commenced the jewelry and watch business for myself in Gowanda, N. Y.

Thinking that some out-door employment might prove a recreation and a reward also, I bought 25 colonies of bees and transferred them to Langstroth hives. Soon after that I purchased 75 more in logs, barrels and boxes, which were also transferred at once to Langstroth hives, to work for comb honey, which then (three years after the American war began) was worth 40 cents per pound by the ton or car load, gross weight, without crating, in the bee-yard.

Invention of a Bee-Hive.

A few winters and summers led to the belief that bee-keepers had not yet all that was needed for the easy and successful production of comb honey, and the safe wintering of the bees.

Experiments had shown that a flat hive, having 4 inches of comb, and a large upper surface for supers realized much better results, but it was regarded impracticable to try to winter bees in such hives with or without protection.

I then decided to make a frame of triangular form, each of the three sides measuring 23 inches, two of the sides having a piece 1½ inches wide attached to hold the frame upright, and to furnish a shoulder, against which the surplus boxes should rest. This arrangement gave ample space for eight 6-pound boxes, in close proximity to the brood ; while, at the same time, only eight large frames were required for honey for winter and other use. These frames were clamped together by a wire loop across the wide ends of the frames, and the movable sides — the whole making a hive as compact as any box-hive, yet easy to manipulate under all circumstances. Either movable side had a long entrance (23 inches) and a portico. Around the whole was a bottomless box having a loose cover. This served as a cover to the surplus in season, and to hold chaff in winter. This hive was a radical affair, and attracted considerable comment among bee-keepers.

Many hives were brought out in different places embodying the same principles, but of different form. Among these may be mentioned the "Quinby improved," which had a series of large, rectangular, tight-end frames, clamped together and setting in a loose box, which served as a cover to the surplus in season, and to hold packing for winter.

The triangular frame, however, was soon abandoned, and at once remodeled, so as to use the same outside cover and front and rear sides. This was done by nailing the tight-ends to a strong top-bar 22¼ inches long, forming a rectangular frame holding a piece of comb 5x22¼ inches.

The above changes converted a hive made before the extractor became much used,

T. F. BINGHAM.

(having frames impractical for extracting purposes), into a hive peculiarly adapted to tiering-up—the extractor just then coming forward as an implement or machine of value to apiculture.

In conventions in Michigan and elsewhere this hive was much discussed, but was regarded as too flat for practical use. It has, however, held exclusive possession of my apiary for a period of 20 years, without a wish to change it. It embodies the principle in a high degree on which my first experiments were made ; viz : large upper surface for surplus comb honey in close proximity to the brood.

Invention of a Smoker.

While the hive experiments were progressing, I was also trying various devices for the production and easy management of smoke, which experience had shown to be absolutely necessary to the easy and rapid handling of bees in movable-combs or otherwise.

My first experiments were the production of a light tin tube having a fire grate and two cork ends, in each of which was a small wooden-tube, to be held in the mouth and to direct the smoke. This proved to be very handy, as both hands remained free for use. They were used quite extensively. They were not, however, all that I desired, and continued experiments were persevering-ingly made. These experiments led to a comparatively handy smoker held in the hand, but operated by the mouth, through a small, flexible tube, one end of which was held in the mouth while the other furnished the smoke tube with air and blast. This was a great advance on any other mouth smoker, but the same old weakness clung to it, that had clung to the others—if you stopped blowing, the fire died out.

But this smoker demonstrated many fine points, as well as its own weaknesses—the latter of which proved the most valuable. They led to the establishment of the natural draft between the blast-pipe and the smoker-stove, continuous, unobstructed, reliable and direct. The principle was now a fixed and established reality—needing only a few ingenious experiments to render it what it has proven itself to be, viz : one of the greatest aids to easy practical apiculture in every country where enlightened methods prevail.

Had Father Langstroth possessed such an implement for managing bees, while his patent was in his own hands, it is safe to say that his hive and system of management would have been more easily introduced to bee-keepers, and that intelligent apiculture would have been very greatly promoted.

Invention of an Uncapping-Knife.

It has been said that "necessity is the mother of invention." The necessity of uncapping combs to extract the honey with unscientific uncapping knives, cheaply made of poor material, led to experiments which developed the peerless Uncapping Knife, now known as the Bingham & Hetherington Uncapping Knife, wherever the honey extractor is known.

Our family and the Hetherington family, if these inventions are of value to the bee-keepers and the world, have not lived entirely in vain. It has been claimed that bee-keeping to be a success must be the special pursuit. In answer, it will be borne in mind that in the Kent-Bingham family bees have been kept consecutively for at least one hundred years. Also that in no one case have they been other than a side issue or pursuit. If, then, the introduction of shallow, tight-end frames, the invention of the direct draft bee-smoker, and the single beveled uncapping-knife may be reasonably called successes, bee-keeping simply as a side-issue in our family, at least, may be regarded as a success.

Briefly yours, T. F. BINGHAM.

Abronia, Michigan.

Long Preservation.

A Case of remarkable preservation of apples comes to us from Pokeepsie, N. Y. The "Evening Enterprise" remarks thus concerning it :

We received to-day from the hands of Mr. George H. Knickerbocker, who keeps a bee-farm in the town of Pine Plains, specimens of two varieties of apples—"russet" and "lady sweet"—that were grown on his farm in 1886. They are in an excellent state of preservation, and look as if they might be kept for an indefinite period of time. Mr. K. informed us that they were kept in a fruit cellar without any artificial means applied to preserve the fruit, and he attributes their remarkable preservation to the even temperature of his fruit cellar. It is certainly a remarkable showing, and is worthy the attention of all who are interested in the preservation of fruit in its natural state.

Mr. Knickerbocker is one of our advertisers, a progressive apiarist, and queen-rearer of prominence in New York.

QUERIES AND REPLIES.

THE ENTRANCES TO HIVES, AND VENTILATION.

Written for the American Bee Journal

Query 503.—1. What kind of hive entrance do you prefer—the dimensions, how contracted, etc.? 2. Does this entrance furnish all the ventilation necessary?—Goshen, N. Y.

1. I use an entrance ⅜x14 inches, contracted by entrance-blocks. 2. Yes.—G. M. DOOLITTLE.

1. The full width of the hive and ⅜ of an inch deep. 2. Yes.—C. H. DIBBERN.

1. The one usually made in the Langstroth hive—¼ inch deep and the whole width of the hive, contracted by two 3-cornered entrance-blocks. 2. Yes, usually.—EUGENE SECOR.

1. Eight inches long, and ½ inch high. Contract by the use of blocks similar to the entrance-blocks of the Langstroth hive. Contracting the entrance is seldom necessary. I leave them wide open in winter. 2. Yes.—M. MAHIN.

1. The full width of the front end of the hive, and ⅜ of an inch high; contract it with entrance-blocks. 2. Usually it does, but not always.—A. B. MASON.

1. On the whole, I prefer it ½-inch by 8 or 10 inches, and contract the size by the Langstroth triangular blocks.—A. J. COOK.

1. One-half inch high and the full width of the hive, to be contracted as needed by a block or stick. 2. Yes.—C. C. MILLER.

The full width of the hive and ⅜ of an inch wide. Contract it with right-angled blocks in the early spring. In the summer and winter have the full entrance open, and furnish necessary ventilation.—MRS. L. HARRISON.

One-half inch wide and the whole width of the front of the hive; contractions to be made with the Langstroth entrance-blocks. Such an entrance furnishes as much ventilation as is needed, so far as I know.—W. Z. HUTCHINSON.

Ten inches wide and 5-16 of an inch deep. Besides in the summer we raise the hive from the bottom and give as much as 2 inches room in depth, in front. We leave the back closed.—DADANT & SON.

1. I prefer the entrance 10 or 12 inches long, ½-inch wide, which I contract as occasion requires, either by slides or by triangular blocks. 2. It will, if the hive is properly shaded.—J. P. H. BROWN.

1. I prefer an entrance ½-inch by 11 inches, and to have it come beneath rather than at the ends of the brood-frames, as usually provided. This kind of an entrance is quite effectual against robber bees, and with full colonies it needs no contraction at any time of the year. 2. On very hot days I give further ventilation at the top of the hive.—G. L. TINKER.

1. I use the Langstroth hive 14¼ inches wide, and give an entrance the whole width of same. 2. Yes, ordinarily, if shade of some kind is used to guard against the sun.—J. E. POND.

The whole width of the hive, and ⅜ of an inch deep, contracted by the entrance-blocks. 2. It will until it gets very warm, then I raise the hive up on little blocks ½ inch by 1 inch, placed under each corner. That will raise the hive ½-inch from the bottom-board all around, except in front, which will be ⅜ of an inch.—H. D. CUTTING.

1. I use and prefer the entrance to the hive to be on a level with the bottom-board of the hive. I prefer this style of entrance for too many reasons to be mentioned here. A slight pitch to the front will drain the bottom-board of all moisture. I make the entrance ⅜ of an inch high, and full width of the hive. I contract it by means of two blocks that can be moved at will. I have had no trouble with this arrangement in any way. 2. The ventilation is ample exeept in excessively hot weather, at which time the hive-covers can be raised slightly, to the comfort of the bees.—G. W. DEMAREE.

I use, and prefer, an opening of from ½ to ⅝ of an inch, and clear across the end of my hive, which is 11½ inches. I prefer the triangular Langstroth blocks to the many devices that I have tested, and all I have ever heard of. These entrances, with the aid of the bees, furnish all the ventilation needed; all upward ventilation in summer has proven worse than useless with me.—JAMES HEDDON.

I prefer an entrance made by cutting a piece ⅜ of an inch deep out of the front end of the bottom-board, extending clear across the front end, and running to a point something like a V about 4 inches from the front end. Give a full entrance by pushing the hive even with the front end, which gives all necessary ventilation. The entrance is reduced by sliding the hive back.—R. L. TAYLOR.

1. The entrance should be the full width of the hive, and about ⅜ of an inch deep. The triangular blocks of the Langstroth hive are about as good as we could wish. 2. The ventilation secured at the entrance of the hive is usually sufficient.—THE EDITOR.

EMPTY COMBS, OR WIRED FRAMES OF FOUNDATION?

Written for the American Bee Journal

Query 504.—If bees are all ready to begin work in the supers, which would be preferable, empty comba at $12 per 100, or wired frames of foundation costing about $9 per 100?—Sturgis, Mich.

Empty combs, every time, if you are producing extracted honey.—JAMES HEDDON.

Give me the wired frames at the figures named, every time.—C. H. DIBBERN.

I think that I should prefer the wired frames.—MRS. L. HARRISON.

If to be used for obtaining extracted honey, I think that the combs, if good ones, are preferable.—R. L. TAYLOR.

The wired frames of foundation, if you wish to get the surplus in the supers.—A. B. MASON.

At a rough guess I should not have much choice.—C. C. MILLER.

I would prefer the empty combs, if in good condition.—H. D. CUTTING.

If the combs are new, perfectly clean and straight, take them; but if they are old and dirty looking, take the foundation in preference.—J. P. H. BROWN.

If the honey is to come in "showers," the combs would be preferable; if otherwise, the foundation. — W. Z. HUTCHINSON.

I should prefer the empty combs, if they are clean and bright, and not filled with pollen.—J. E. POND.

I do not quite understand the question. If the combs and frames mentioned are for the brood-nest, I would take the empty combs.—M. MAHIN.

The empty combs, provided they are worker combs. We suppose you speak of producing extracted honey.—CHAS. DADANT & SON.

At the present prices of extracted honey, and given a prospective heavy flow from basswood, I should take the empty combs.—G. L. TINKER.

If by "super" you mean upper story for extracting, I would prefer the empty combs. If working for comb honey in sections, the foundation would be worth the most below. I fear that I do not fully understand the intent of the query.—EUGENE SECOR.

I should prefer the empty combs, if I understand the question rightly; but I would prefer to have the bees build them at times when it could be done at a less expense.—G. M. DOOLITTLE.

The question is not clear. If they are "all ready," they must have a set

of filled combs in the brood-chamber. —A. J. Cook.

If the combs were good ones in every way, I would accept the combs without hesitation. It takes time for bees to draw out foundation, and they will not do it unless honey is coming in. I am quite sure that the empty combs would give a good profit over the frames of foundation, after accounting for the difference in the price. I would not have wire in my combs as long as I can get a good article of foundation suitable for combs without wire. I have a lot of wired combs, and they will never be increased in numbers in my apiary.—G. W. Demaree.

That depends upon the condition of the empty combs. If they are in good condition, they would perhaps be preferable, but there is but little difference. —The Editor.

SWARMS ALIGHTING HIGH.

Written for the American Bee Journal

Query 505.—Are not swarms that allght high, more likely to desert the premises?—E.

No.—Mrs. L. Harrison.

I do not know.—H. D. Cutting.

I do not know.—W. Z. Hutchinson.

No.—Dadant & Son.

They usually are.—J. P. H. Brown.

Not if the same eare is exercised in hiving.—A. B. Mason.

No; it makes no difference where they alight.—C. H. Dibbern.

I do not know why they should.—C. C. Miller.

Yes, but only so far as I know for the reason that there is generally greater delay in recovering them.—R. L. Taylor.

Yes, if you cannot reach them. In fact, without joking, I believe there are more individnal bees that desire to go right off to the woods in swarms that cluster high up.—James Heddon.

I think so, for the reason that they are more likely to have a young queen, and young queens are more likely to leave than old ones.—Eugene Secor.

I have not seen any difference, and I eannot imagine any reason why they should.—J. E. Pond.

I have seen no difference. In fact I have never had a swarm to come out after I had hived it.—M. Mahin.

Not in my experience. Bees are more apt to emigrate when located in the country near heavy timber. In villages and eities it is rare for a swarm to go away unless uneared for. My bees often go to the tops of the highest apple-trees, but I have never had a swarm to go away, or desert a hive if properly shaded and ventilated. —G. L. Tinker.

No swarms desert for me, as I keep the wings of the old queens clipped, and allow few if any second swarms. I think that the alighting has little to do with it.—G. M. Doolittle.

I should say so, as the bee-keeper finds it difficult to capture them, and certainly will be more tardy in hiving such a swarm. Clip the queen's wing, and there will be no danger, in any event.—A. J. Cook.

I think not. I have seen swarms cluster so high that no ordinary means could reach them,and they would tarry as long in the cluster as other swarms that clustered near the ground. I am not a believer in the marvelous stories about bees "sending out seouts to look up a new home." People are fond of the marvelous, and are ready to believe anything, if it is a little out of the general order of things. I venture to assert that bees never know where they will stop when they leave the maternal roof. I have seen a swarm go straight to a tree and enter a hole in it; but that does not prove any thing, for I have seen them fail to do so, a great many more times than I have seen them do it.—G.W.Demaree.

Swarms that alight high usually, have young queens, and as it is more difficult to capture such swarms, and takes more time to accomplish it, they do more often get away than those which are more easily captured. If the queen's wing be clipped, as practiced by many of our best apiarists, there will be no danger of their going away.—The Editor.

O Winter, We Greet Thee.

Written for Vick's Magazine

BY S. W. LLOYD.

We greet thee, Winter! We are glad
To see thy snowy mantle spread
O'er river, lake and hill;
We're glad to hear the merry sounds
That tell us happiness abounds
Among sleigh-riders still.

We love thee, Winter! Thou dost bring
Upon the cold and frosty wing
Much, much our hearts to glad;
And though thou'rt bleak, we'll not repine,
For springs of joyousness are thine
That Summer never had.

Then, hail thee, Winter! We will greet
Thy pleasures with a welcome meet,
And taste them while they stay;
And when thou'rt gone, and joyous Spring
Comes with her robes of blossoming,
We'll bid thee speed away.

CORRESPONDENCE.

FOUNDATION.

The Plan of Manufacturing it with the Use of Molds.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

I was a little surprised to find that every one answering Query 500, on page 788 of the Bee Journal fof 1887, answered it in the negative, except myself. Can it be that few, if any, of our apiarists are using molds for making foundation? And if such is the case, why are they not using them? As my answer to the query above mentioned has caused quite an increase in my correspondence, I will try to answer some of the questions that have been asked.

I never was favorably impressed with any of the machines requiring dipping-boards, in the hands of the average bee-keeper, owing to its taking so much paraphernalia, and especially as so much wax was required; for when I sent wax off to be worked up, I was told that if I sent less than 50 pounds, I would get little, if any, of my own wax in the foundation that I would receive, as it took from 50 to 75 lbs.of wax in the dipping-tank to get the required depth of sheet. As soon as I understood this, I saw that it was of no use for me to think of making my own foundation, to carry on the few experiments which I wished to make. Therefore I then rested contentedly in purchasing the little foundation that I wished for experimental purposes, till about five or six years ago, when I saw an advertisement regarding "foundation-molds" for making small sheets of foundation for sections.

From the little information that I gained from the advertisement, I saw that I could use as small a quantity of wax as I wished in working the molds. I immediately procured the molds, and was soon making foundation running from 10 to 12 square feet to the pound, by simply pouring a large spoonful of melted wax into the molds,and quickly shutting them. With these little molds (about 6 inches square) I could easily make up 12 pounds of wax in a short winter's day, which gave me $3 for my day's labor, as I must pay 50 cents per pound for foundation when wax was only worth 25 cents per pound.

After making all the wax I had into nice foundation, I lent the molds to a neighbor bee-keeper who left them at night while wet, when the plaster of Paris was frozen, thus ruining them, as

they all crumbled off in using afterward.

The next year I secured another mold 12x12 inches square, on which I can easily make from 40 to 50 pounds of wax into foundation in one day; and as these have been kept from frost, except when dry, they are now as good as ever, after having made considerable foundation on them for myself and neighbors.

How to Use Foundation Molds.

All that is necessary to do in making the foundation is, to have the extractor can filled with water, which is kept cold by ice, or allowing a stream of cold spring-water to run through it, on top of which (can) a rack is fixed similar to the one which goes over the Dadant uncapping can, upon which the molds rest. Having the can thus fixed, plunge the molds in the water an hour before you wish to commence work.

Now place a large pan filled with wax on the stove, having the can near by, or, what is preferable, if you have one, place an oil-stove beside the can, having a melting dish fixed for the purpose on the oil-stove. This dish should have an apron made of tin to extend from it to the can, so that all drippings will run either back into the melter, or over into the can, the former being preferred.

Being thus ready, raise the molds from the water, let them drain a second, and then place in position in the frame over the can, when with a small dipper, or the fount that comes with the molds, pour the required amount of melted wax on the lower plate of the mold. As soon as the wax is on, shut the mold with a steady hand, giving it as much of a pressure as is convenient by bearing down with the hand. In a few seconds open the molds, and remove the sheet of foundation, when you are ready to pour on melted wax again.

After about 5 or 6 sheets of foundation have been made, the molds will begin to get warm, when, if heavy foundation is to be made, they must be opened and put in the water again to cool off, leaving them in the water for about a minute. If thin foundation is desired, dip the molds in the water only enough to keep them so cool that they will not tear the foundation to pieces in opening them. I make the heavy foundation to run about 6 square feet to the pound, and the thin from 11 to 12 square feet; and I can make good wages doing it, if only 20 colonies were kept, and those to be furnished with nothing but starters; for I have my own wax, extractor can, dipper, stove, etc.

Now if Mr. Dadant or Mr. Van Deusen should see a sheet of this foundation, they would doubtless say, "Doolittle, this does not compare with the foundation that we make;" when I would say, "By what authority do you decide?" expecting to be met with, "See, it does not look nearly so perfect as does ours." Then I should say, "Admitted;" but when the authority is the bees, they say: "Give us the molded foundation, and we will work it out just a little quicker than the other, and after it is completed you nor any other man can tell any difference."

From my experience with this and nearly all other kinds of comb foundation, I am convinced that this molded foundation is equally as good as any; is accepted by the bees just as soon as that made on the Given press, and a little sooner than that made on any of the roller mills; and the best of all is, that any one can make it at his leisure, use up his own wax, even down to the last ounce, thus being independent, and keeping his pennies at home to feed and clothe his family.

To anticipate an error regarding this article, I will say that I am in no way interested in the manufacture, or the sale, of the molds, any more than I am in all other bee-keeping appliances. I have written this article only for two reasons, viz: First, to tell my friends regarding what I believe is a good thing; and, second, to answer my numerous correspondents publicly, so as to avoid the strain on my time and health that a private answer to each would cause.

Borodino, ⊙ N. Y.

COUSINS TALK.

Putting Bee-Literature on its Proper Basis.

Written for the American Bee Journal

BY R. M'KNIGHT.

So, after all, Dr. Mason "has no unkindly feeling toward his cousins across the border." Well, I began to suspect as much, from his own utterances, as well as from the good character that has been given him by others who know him. When he administers the lash, it is for the sole object of correction, and not for the purpose of inflicting pain. He tells us so himself, and who has a better right to know? His dearest wish is to exercise a fatherly care over the erring. "All wayward people who go astray," are the especial objects of his care; and "to aid in getting them in the right way when they go astray," he feels to be a duty to which he has been called.

In pursuance of this self-imposed task, he tells us that he is not going to "confine himself" "to any one erroneous statement," but thinks he shall "wander around after such bee-literature as gets off its base." I admire the Doctor's courage, for none but but a courageous man would undertake such a Herculean task, and none but a hopeful one could expect to succeed in the undertaking. It would be a cruel thing to say or to do anything calculated to make rough the path of duty which the Doctor has mapped out for himself, however much we may doubt his ability to reach the goal of his ambition.

After this he may tell us as often as he may please, that we are a people given to "bombast;" we will remember that it is just a way he has of putting bee-literature on its proper basis. He may charge us with practicing "dishonesty and fraud," but we will know that these charges are only the hammer and the trowel that he employs in making the "crooked" things straight. He may say that we steal the name of your linden honey, but he does not mean it, for he "has no objection to Canadians giving their products any name that they choose."

The Doctor says that he does not *hate* anybody. I sincerely believe that to be a fact, and regret having used the word in a way that he might think it was meant to have a personal application to himself. I am upon my knees in penitence, that I misunderstood his motives. I shall hereafter only think of him as one of America's greatest philanthropists. "A gude New Year to you," Doctor, "and many happy returns."

Owen Sound, Ont., Dec. 30, 1887.

UNFINISHED SECTIONS.

How Best to Utilize the Partly-Filled Sections.

Written for the American Bee Journal

BY C. THEILMANN.

In the report of the proceedings of the North American Bee-Keepers' Convention at Chicago, I find the discussion on the re-use of comb built in sections to be filled with honey the next season. It is gratifying to know that the great majority of bee-keepers consider these combs of great advantage, by which they can obtain larger crops of honey, and of just as good quality, as by the use of foundation. I can hardly understand why some bee-keepers cannot obtain good honey in nice, white combs built in sections the year previous.

Some years ago it was a real perplexity to me, to have a lot of unfinished sections in different states of completion, after the harvest was over, and I hardly knew what to do with them. I then tried in different ways to make use of them. Those nearly

completed I sold at about half the price of sealed honey, and the rest was given to the bees for completion the next season, and of which the bees made a bad job, as some of it was granulated, and some was sour, though they fixed it all up as well as they could, and finished them; but it was horrible looking honey, the sides of the comb was very uneven, besides being of different colors. I was almost ashamed to offer it for sale.

Using Partly-Filled Sections.

After experimenting two or three seasons more, I discovered the right way, though I think I had lost considerable before, by trying to make the bees finish nearly all the sections the same season, by changing them around among the hives. This was not only lost time for me, but also for the bees, or rather, less honey for me. I now allow my bees to go above toward the close of the honey season, and let them have their own way about finishing the sections; but as soon as the honey season is over, I extract every unfinished section that I have, and let the bees clean them out, when they are ready for the next season. By this method I secured just as fine honey as I do with foundation starters, and a great deal more of it; and the cases with the empty combs are nicely put away, where no mice or dust can get at them.

I am glad that there are more bee-keepers who can secure nice honey with these combs, as was shown at the late convention in Chicago; that Mr. Hutchinson had the nicest lot of honey in Chicago; and that he, as we understand, uses the empty combs.

When I was ready to sell my honey, I have never been asked, "Are your crates and sections clean?" or, "Are the combs from last year?" etc. No, not any of these questions have ever been asked, but invariably, "Is your honey white?" and on this *white* the whole question turns, in selling and buying.

If I have my dark honey in ever so nice combs, crates and sections, it is slow sale, and at a far lower price than white honey; even if the latter is less attractively put up. Of course it is best to have the honey in the best marketable shape, and everything else clean, and in its proper place.

Report for 1887.

I commenced with 145 colonies, increasing them to 217, by natural swarming. I obtained 7,000 pounds of comb honey, and 1,000 pounds of extracted honey. The whole crop realized for me about $1,300. I also sold bees enough to pay nearly all the expenses of the apiary.

Theilmanton, Minn.

BEE CELLAR.

The Proper Temperature and Ventilation of a Bee-Cellar.

Written for the American Bee Journal
BY A. C. TYRREL.

So much has been written on this subject, that the heading of this article may prevent an impartial perusal thereof, by those who consider that they long ere this learned *all* there is to be known about wintering bees successfully in caves or cellars. But I opine that many decades will elapse ere the "A B C class" in apiculture *graduate*.

What I am about to advocate, I am well aware will not meet with a "second" from the majority of bee-keepers throughout the country, for my experiments (not assumptions or mere theories) will not comport with what they term "reason" or common sense, but *audi alteram partem* (hear the other side), and then condemn, or award the full measure of praise if the *proof* herein presented for consideration sustains my assertions.

In the matter of temperature and ventilation, I have endeavored to thoroughly post myself, for they are the most important factors—all others are of minor importance, as matters over which we have no control, such as honey-dew, improper food, etc., speculative fancies, formative hypothesis, to meet the exigency of exceptional cases. Whenever it has been my good fortune to make a discovery, seemingly outside of the usual order of things, it has been the practice with me to patiently watch and experiment for at least *three* seasons before acquainting the public with the result of my observations—so often do our fondest hopes and brightest dreams prove to be chimerical. And of those composing the great fraternity of bee-keepers, from the Orient to the Occident, having many a pet theory and hobby-horse to ride, when asked to give "a reason for the hope that is within them," at once "trot out" *Experience*, of longer or shorter duration, in accordance with the importance of the case, or amount of pressure brought to bear by adherents of the opposite side of the question.

For a long time I was of the opinion that my bee-cellar was *too warm*, but as so many of my fellow-apiarists said 41° to 45°, and some have said 52°, Fahr., I endeavored to so regulate the cellar that the temperature would not fall below 45°, but I signally failed to exclude frost; and it was well for me in a financial point of view, and certainly better for the bees, that I did fail.

During the winter of 1885, and the following winter, the thermometer in my cellar, after the cold weather set in (say about half of the winter), registered 30°, occasionally dropping down to 28°, but, strange (?) to say, the bees, without any exception, wintered perfectly.

Last winter the cellar was made much warmer than ever before, the mercury indicating 45° (often higher), but the loss of bees was *much greater* than the preceding winters. Was this phenomenal, or the legitimate result of cause and effect? On Nov. 22, 1887, my bees were put into the cellar, having previously provided tight outside and inner doors, and stopping all crevices, besides making ample provisions for ventilation. The weather has been, with one exception, unusually warm, and in consequence the thermometer in the cellar has registered, nearly every day, 50°, until night before last, when I succeeded (by opening wide all out-side doors, and raising the curtain used for darkening the apartment) in lowering the temperature to 42°, and last night to 32°.

Up to this time the stronger colonies have been very restless, necessitating the use of wire-cloth to confine them to their respective hives. Night and day it was distressing to hear them "roar," so different from the low, gentle hum of contentment that there is no mistaking the cause, or sound. Although there were no symptoms of diarrhea, the death-rate was fearful, and would soon have depleted the colonies had it not been checked.

When the mercury dropped to 42°, the change inside the hives was apparent at once, but when it reached 32° the bees went into the hives and remained perfectly quiet and contented.

Whenever the temperature rises above 42°, Fahr., in my cellar, the bees become restive, and boil out of the hives as if in the act of attacking marauders; hence I say that from 32° to 38° is the proper temperature for a bee-cellar or cave; and I do not fear for the safety of *my* bees if it drops occasionally to 28°.

If I could regulate the temperature at all times I would not allow it to rise above 40°, for I am satisfied that "heat" is more injurious to bees in "confinement" than cold, provided the cellar is dry and well ventilated.

How many, if any of the bee-keepers who have written on the subject, have tested the condition of a *strong* colony as to bodily heat generated? How do they know that 45° or 50° *is* "about right?" that if the temperature falls below those figures, the bees become restless, exercise violently to keep warm, consume more honey than is

necessary to sustain life, and diarrhea is the result? Do their assumptions comport with scientific investigations? That theory is fallacious, and has no foundation in fact, so far as my observation has extended; for we have occupied a room above the bee-cellar for four winters, and cannot subscribe to that hypothesis.

By repeated trials I have satisfied myself in regard to degrees of heat engendered by a large colony. For instance, when the temperature of the cellar 3 feet from the hive is 32°, inside (not among the cluster), a thermometer laid lengthwise on top of the brood-frames registers 78°, a difference of 46°, with the hive raised from the bottom-board a bee-space, and burlap on the hive slightly raised. If the same rule applied to a higher (outside) temperature, it would be as follows: At 35° on the outside, inside of the hive it would be 81°; 40° outside, 86° inside; 45° outside, 91° inside; 48° outside, 94° inside; and 52° outside, 98° inside the hive.

My bees on the summer stands, whenever the mercury reaches 90° in the shade, either loaf idly around the throne (bee-throne) or hang outside the hives, and I feel like following their example. If the degrees of heat was maintained in proportion to the scale above given, the heat inside the hives would be unendurable, but at 41° outside, the bees begin to break cluster, and at 45° the cluster *is* broken up, and they manifest a very restless disposition, traveling swiftly to and fro, trying to get out of the hives, and on such occasions the *loudest* "roaring" is heard. This *fact* cannot be gainsaid, for inside of the experimental hive the thermometer registered but 76°, proving conclusively to me, that the bees endeavor to keep the temperature at from 76° to 78°, the proper condition for successful wintering.

High temperature, in my opinion, is the cause of bee-diarrhea, not improper stores, as my weak colonies have never shown symptoms of that disease. Again, hives packed full of bees, as many of mine are, with the mercury ranging from 45° to 50°, sweat profusely, and the combs in consequence soon become moldy, the honey unfit for use, the entire colony perish, and in the spring, when the hives are opened, to our astonishment we find a putrid mess of bees, and the cause is attributed to pollen, honey-dew, or poor honey, jumping at conclusions. While it is a fact that our stronger colonies cannot be wintered successfully in a cellar wherein the temperature rises so high as to cause the trouble indicated, weak colonies will remain perfectly quiet, and winter well in an atmosphere deterious to the majority of large colonies.

As *all* colonies are not of uniform size, we must make the conditions alike for both large and small ones, which can be done by dividing the larger, and contracting the smaller colonies, by using division-boards, thereby compelling them to cluster as desired. I prefer medium-sized colonies, but "men and mice go oft agley," men especially, if as in my case the elements combine to frustrate all our well-laid plans.

In this article I have been actuated by a desire to help solve the problem of wintering bees, "under the ground;" and as an "ounce of preventive is worth a pound of cure," so is one practical scientific *fact* of more value than volumes of theoretical asseverations. I have been careful not to submit "positive assumptions upon the tottering platform of unverified theories."

Madison, ♀ Nebr., Dec. 16, 1887.

SPECIALISTS.

Can a Specialist produce Honey cheaper and in better shape than others? If so, why?

Read at the Ontario Bee-Keepers' Convention,
BY DR. C. C. MILLER.

By *specialist*, in this case, I suppose is meant one who keeps a number of colonies and makes bee-keeping at least a principal part of his business. Just where is the dividing line between one who is, and who is not a specialist may not be so easily determined. I suppose all would agree that a man who keeps a thousand colonies and devotes his whole time and thought to bee-keeping is a specialist, and one who owns a single colony which is left to take care of itself without the owner's knowing whether the king or the drones lay the eggs, is not a specialist. Somewhere between these two lies a ground where it might be hard to tell whether a man were a specialist or not. Without any hair-splitting, however, we may all agree that the specalist in bee-keeping devotes a considerable portion of his time and thought to the care of his bees, and has enough colonies so that their failure or success may be a matter of serious concern to him.

I may as well frankly avow myself as a believer in specialties, but it is well to look at both sides. The general tendency is toward specializing in all departments. Our great grandmothers cut the wool from the sheep's backs, and without passing from their hands the wool was fashioned into stockings or coats. Now all that is changed. At least half a dozen persons take the place of the one great grandmother, each one pursuing his specialty, and so it is everywhere.

In an age so keen to the pursuit of wealth, there is no evading the conclusion that there must be money in settling down into specialists, or it would not be done. There are, however, exceptions to general rules. Take the two cases we have supposed, one man with a thousand colonies, another with one. The 1,000-colonies man cannot produce honey for nothing, that is clear. He must have something to buy his bread. The 1-colony man attaches little or no value to his bees, They cost him nothing, and in the event of a failure of the honey crop, he counts upon no loss for he has bestowed no labor on his bees, no study or thought. If they give him a crop, it is so much clear gain. He divides with his neighbor, or takes his honey in a pail to the nearest store, and accepts whatever price is offered, as he is not particular what he gets for that which has cost him nothing. He counts it about the same as the wild grapes which grow in his fence-rows, and which any one can have for the gathering. Looking at it in this light, as between the man with 1,000 colonies and the man with one, does it not look as if the latter has the best of it in point of cheapness? Looking at it no further than this, I do not wonder that some hold the view that every one should be encouraged to keep bees, and that to have honey plenty and cheap, all that is necessary is to have a bee-hive at every man's door.

But let us see what is the result of this happy-go-lucky state of affairs. Has not this system been tried? I think that close observation will bear me out in saying that before the days of specialists in bee-keeping, when honey "cost nothing," not one family had honey to eat where three now have it. Please do not forget that the plan of having bees kept 1 or 10 colonies in a place, is exactly the system that was in vogue 50 years ago, and is no new thing. Is the system practiced as much now as then? Look around you and see. People are not apt to give up that which is profitable. If the man with one colony can produce honey for nothing, does he follow it up year after year? Very seldom. The fact is, take a series of years and he cannot produce his honey as cheaply as he can buy it of the specialist, and the strongest proof is his own actions.

I have just been looking over a list of bee-keepers of ten years ago, and of those who were specialists not one in ten has left the ranks. On the other hand I recall to mind those who were non-specialists living about me ten years ago, and not one in ten of them to-day owns a bee, although some of them had as many as 20 colonies. Put-

ting these two facts together, do they not show that the specialist can produce honey more cheaply than others? Else why does he keep at it, and others give it up. The fact is, the latter consider it a matter of luck. If, walking along the road, I find a silver dollar and pick it up, it costs me nothing, but I would hardly argue from that, that finding silver dollars in the road is the cheapest way of getting them as a steady business.

Very strong proof, then, that the specialist can produce honey more cheaply than others is the simple fact that he persists in the business when others give it up. Now why can he produce it more cheaply? Why can you buy your coats and pants at the clothier's more cheaply than your wife can make them? Because the clothier has the proper appliances, and knows his business. Just so with the specialist in any line. The man who makes a specialty of bee-keeping is provided with books and papers. He studies his business, and is thus less liable to make disastrous mistakes. Keeping a large number of colonies, he can afford to be supplied with the best implements and labor-saving appliances. Above and beyond everything else, however, is the one reason, that the specialist knows his business. Can you expect anything else in any line of business than that the man who gives his best thoughts and energies to that business will succeed better than he who knows nothing about it?

To take the middle part of the subject last, the specialist will produce honey in better shape, for the same reason that he can produce it more cheaply, simply because he has better facilities, and because he *knows how*.

Marengo, ♂ Ills.

SEASON OF 1887.

Comparing Farmers with Apiarists in a Poor Season.

Written for the American Bee Journal
BY DR. H. J. SCOLES.

I commenced the season of 1887 with 44 colonies, 40 of them being in good condition, and the other 4 were quite weak. When the white clover began to bloom, the 40 colonies were ready for it, but there was but a small bloom, and of what there was the heads were small and yielded but little nectar. The clover looked sickly, and appeared to be dying out; then the drouth set in, and it appeared to be about all dead.

The linden bloom was early, and it yielded but little, so that from my 44 colonies I got but 4 swarms, and some of the weak colonies dwindled away until I have but 43, which I put into the cellar on Nov. 18, 1887. About one-third of them were rather light, but had stores enough, I think, to keep them until they are put out in the spring.

I secured but 185 pounds of honey, all in the comb. But few of the colonies that I had set apart for extracting, had any surplus, and that I saved to give to those that were short of stores. In this part of the country the blacker the bee, the less stores they gathered.

I have been handling bees for about 15 years, and the one just past was the poorest season for honey that I have ever experienced. A great many have become discouraged, and were trying to dispose of their apiaries the past fall. What folly! If a farmer loses all of his hogs by cholera, he does not stop trying to raise more; or, if the chinch-bug or grasshopper destroys his crops, he does not cease sowing and planting; but it makes him the more careful. Why should it not be the same with apiarists, and thus make us the more careful, so that we may be ready to take advantage of a good season when it does come?

Knoxville, ♀ Iowa, Jan. 2, 1888.

STARTERS.

Suggestions about Fastening Foundation in Sections.

Written for the American Bee Journal
BY ED. S. EDEN.

After reading Mr. Fox's article, on page 823 of the BEE JOURNAL for 1887, I fail to see that his method of fastening foundation in sections would be very satisfactory, especially to me. I fancy that if Mr. Fox would use a foundation starter that would reach across the section, he would find that his method would prove very unsatisfactory. Very few bee-keepers use as small a starter as does Mr. Fox, 1-inch square.

We will suppose that Mr. Fox uses a starter that is 2 inches deep. I presume that it would require ¼ of an inch to be pressed on to the section, as a means of fastening it. Now ¼ of an inch is ⅛ of 2 inches. We will suppose again that Mr. Fox invests $100 in foundation; ⅛ of 100 is $12.50; which would be very unsatisfactory to me. In Mr. F's case, his loss is $25, for he uses just one-half the width, and consequently loses one-fourth of the whole amount.

Another objection to fastening foundation by pressure is, that if the sections are allowed to stand any length of time after the starters have been fastened in them, the foundation will curl out to one side; and if placed on the hive in this shape, the bees will fasten the sides of the foundation to the section in a great many cases, so that it is impossible to get straight combs without separators.

My bees have consumed very little honey so far this winter.

Eastwood, Ont., Jan. 2, 1888.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Jan. 17,18.—N.W. Ills. & S. W.Wis., at Rockford, Ill. D. A. Fuller, Sec., Cherry Valley, Ills.

Jan. 18, 19.—Vermont State, at Burlington, Vt. R. H. Holmes, Sec., Shoreham, Vt.

Jan. 17-19.—New York State, at Utica, N. Y. G. H. Knickerbocker, Sec., Pine Plains, N. Y.

Jan. 20.—Haldimand, at Cayuga, Ontario. E. C. Campbell, Sec., Cayuga, Ont.

Jan. 25, 26.—N. E. Ohio, Northern Pa. and W. New York, at Meadville, Pa. C. H. Coon, Sec., New Lyme, O.

Apr. 24.—Des Moines County, at Burlington, Iowa. John Nau, Sec., Middletown, Iowa.

Jan. 24-26.—Eastern New York, at Albany, N.Y. John Aspinwall, Sec., Barrytown, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Sweet Clover for Bees, etc.—Nathan Davis, Emporia, ♀ Kans., on Dec. 28, 1887, writes:

The bees are wintering well. I commenced the season of 1887 with 25 colonies, and I have increased them to 30 colonies. Bees have done nothing here for two years, on account of the drouths. There has been nothing raised the past year. I have been in Kansas 28 years, and I have never seen times as hard as they are at present. I think that it would pay to sow sweet clover for the bees. I had two acres that bloomed this year, and the bees did well on it. I saved 16 bushels of the seed. I have no trouble to get it to grow.

Honey for the Liver.—Mr. W. H. Smith, Mount Salem, Ont., on Jan. 3, 1888, writes:

I have been a careful reader of the AMERICAN BEE JOURNAL for several years, and I have frequently realized more value from one copy, than the cost of a whole year's subscription. There is one item to which I wish to call the attention of the readers, which I read in the spring of 1886, and that treated of honey as a medicine for the liver. My wife, having for years been a sufferer from liver trouble, concluded

to give honey a thorough trial. At the time she commenced taking the honey, she was very thin in flesh, and a great sufferer, weighing about 100 pounds. In a few weeks she was materially better, and found that she had increased 13 pounds in weight. During the season she regained her health completely, and weighed 142 pounds. She is now a picture of health. I shall be pleased to reply to any one desiring further particulars. It would be quite impossible for me to mention here all the benefits that I have realized from reading the very valuable AMERICAN BEE JOURNAL.

Varieties of Hardy Raspberries, etc.—L. C. Woodman, of Grand Rapids, ☉ Mich., on Jan. 2, 1888, says:

Mr. C. A. Bunch, in a recent number of the BEE JOURNAL, asked that some Michigan bee-keeper should give some information in regard to hardy raspberries. As I have 10 acres in cultivation, I will try to answer. I would put the Cuthbert, a red variety, at the head for bee-keepers; and then the Souhegan, Tyler and the Ohio, of the black-cap varieties, next to the head.

My bees are in the cellar, and seem to be wintering nicely. My chaff-hive apiary, 3 miles from home, seems to be wintering equally as well.

Large Crop of Honey, etc.—J. E. Cady, Medford, ♀ Minn., Dec. 31, 1887, writes:

My crop statement for 1887 is as follows: Number of colonies in the spring, 109, which I increased to 118 colonies. I took 8,575 pounds of honey, nearly 600 pounds of it being comb honey, and the balance extracted; 2,635 pounds was from buckwheat and fall weeds. It has been storming for the last three days, and the snow is getting quite deep. Bees in the cellar seem to be quiet and comfortable at a temperature of 48°.

To the Mountains.—J. F. Flory, Lemoore, ☉ Calif., on Dec. 10, 1887, writes:

Bees have not stored a full crop of honey here; in some places they stored less, and in others more than half a crop, so that on an average it has been about half a crop. We have about 500 colonies, 300 colonies here, and the others some 8 miles away. We shall move them next spring about 50 miles west, up the mountains. I have 25 acres in fruit, and 18 acres in raisins. We have so many yellow-jackets, or wasps, that cut open the fruit, and then the bees suck out the juice. I am an enthusiastic bee-man, have been such for over 30 years, and so dislike moving my bees from this place; but I see no other remedy at present. I think of keeping perhaps some 20 or 30 colonies here, but the rest I will move.

But Little Honey Obtained.—A. H. Thorne, Fountain City, ☌ Ind., on Dec. 27, 1887, says:

I started last spring with 22 colonies of bees, bought 6 more Italian colonies, and increased them to 40 good colonies, and introduced eight Carniolan queens successfully, which I will try the coming year. I had to feed my bees for winter, and I did not get honey enough for use in my own home. The name, "extracted honey" is good enough for me.

Carrying out Brood, &c.—J. M. Doudna, Alexandria, ☉ Minn., on Dec. 29, 1887, writes:

The honey season was very short, only lasting 8 days, from July 4 to 12. Early in June the bees began to carry out brood. I had read that the cause was "no honey," and so it proved. I immediately commenced to feed them, and continued until the linden bloom, and then I obtained 2,700 pounds from 68 colonies. All of it has been sold at good prices. Bee-keeping has paid me better this year than ever before. To me the BEE JOURNAL is worth ten times its cost every year.

Hardy Raspberries and Bees.—J. H. Newman, Charlevoix, ♂ Mich., on Dec. 26, 1887, writes:

Mr. C. A. Bunch (on page 795 of the BEE JOURNAL for 1887) asks about hardy raspberries, and in reply I would say that the red raspberries are nearly all hardy here, with the temperature sometimes 30° below zero. The best we have are the Cuthbert, Turner, and Shaffer's Colossal, of the red berries. Of the black raspberries we raise the Ohio, Tyler, and Souhegan, which are good and hardy, but not so hardy as the red kinds. The bees seem to work well on all the raspberries, both wild and tame; and they work on the berries as well as the blossoms.

Experience with Bees, etc.—A. B. Congdon, South Hadley Falls, ♀ Mass., on Dec. 24, 1887, writes:

In the spring of 1886 I bought 2 colonies of bees in box-hives, and not knowing how to transfer them, it was not done until the next spring, so the first year was wasted, just because I did not post myself before beginning with bees. This year I transferred them into movable frame hives, and doubled them up, as it was a very poor year for honey here also. I did not get any honey, but I am not discouraged, and I think, and know, that if there will be any honey taken in this vicinity next year, that I shall have my share of it.

I have put my bees into the barn in a comfortable place. I had to feed them some sugar syrup before putting them away. I have looked at them, and they are as quiet as can be, and I think they will come out in the spring as bright as need be. They are hybrids, but I intend to Italianize them in the spring.

Bees did Poorly.—Wm. Robson, Rolla, ☉ Mo., on Jan. 2, 1888, writes:

Buoyant with flattering prospects in the spring of 1887, the supers were arranged, new hives prepared, and every thing made ready for the harvest of 1887, when along came storms from all directions, for a change. Did I get any honey? Yes, but allow me to explain: I left a few cases of honey on the hives over winter, that was gathered during the summer of 1886, but not being filled with comb and honey as desired, they remained until white clover began to bloom. I then removed them, and for the first time in my life I had the pleasure of tasting honey from the bloom of the apple trees. I placed other cases on the hives and awaited results. The "result" is an empty pocket-book, for want of honey to sell. Since I can remember, which is 40 years ago, I have no knowledge of bees doing as poorly as they did the past season. I have spoken to several about their bees, how they were doing, etc.; their reply is, "no good; all dead."

A Puzzling Colony, etc.—R. J. Mathews, Riverton, ☉ Miss., on Dec. 18, 1887, writes:

I commenced the season with 9 colonies, increased them to 19, and took one from a tree in the woods, so I now have 20 colonies in good condition. I obtained 1,040 one-pound sections of honey, and 250 pounds of extracted honey, of which about 75 pounds was of very poor quality, and the rest was fair. I consider that pretty good for a bad season generally.

To-day it is clear and warm, the temperature is up to 65° out-doors in the shade, and I see from one colony of hybrid bees a large number of drones flying. I have another colony that puzzles me. On Sept. 2 I took its queen (a black one) from them, and

gave it to another queenless colony belonging to my little son, a colony that he got from the woods. In a few days I examined the little boy's colony, and again found it queenless, so I went to my black colony where the queen came from, and found that they had a queen laying, and so I supposed that she had gone back home ; but now the bees are nearly all nice Italians, and no young black bees in the hive. Can any one account for this ?

Properly Attending to Bees.—F. H. McDonald, Star, Idaho, on Dec. 26, 1887, says :

Those who attended properly to their bees have reaped a bountiful crop of honey in this neighborhood. Some late swarms have but little food. One of my neighbors put his bees into the cellar last month, and in a few days he had to take them out again, as they had the diarrhea. He will winter part of them in the cellar, and part on the summer stands. Nearly all the bees kept in this valley are, and have been so far, wintered on the summer stands without any protection, and also with scarcely any loss.

Half an Average Crop, etc.—George Spitler, Mosiertown, Pa., on Dec. 26, 1887, writes :

The honey crop in this part of the State is not more than half an average crop, being about 20 pounds per colony, spring count. I started in the fall of 1886 with 20 good colonies, and 3 weak nuclei ; in the spring of 1887 I had 18 colonies, 3 queenless ones and 2 nuclei. I had them packed in chaff. Those that were weakest in the fall came through in the best condition. I have 23 colonies packed as they were last year, out-doors, and 11 colonies in the cellar. One colony out-doors and 3 in the cellar are very weak—nothing but nuclei. There was but very little swarming the past season.

Good Winter for Bees, etc.—Joshua Bull, Seymour, Wis., on Jan. 5, 1888, writes :

On page 823 of the BEE JOURNAL for 1887, I am made to say that basswood yielded continually "from July 4 to July 27 inclusive," which is not according to the facts in the case. I intended to say, "from July 4 to July 7" (not 27).

My bees were in excellent condition last fall to enter their long winter repose, the colonies being very populous, with an abundance of stores. The weather, during November and December, was unusually mild for that time of the year in this latitude ; and although the mercury was below zero several times, it was for a few hours only. The year 1887 closed with a driving snow-storm, which continued into the beginning of the New Year. When the storm cleared away, it turned cold, and on the morning of Jan. 3 the thermometer indicated 24° below zero. But it is quite mild again to-day, being 22° above zero. Somehow I feel a sort of premonition that this is going to be a favorable winter for bees, and I sincerely hope that the results next spring will be such as will justify that feeling.

BEE CONVENTIONS.

Nebraska State Covention.

The next meeting of the Nebraska State Bee-Keepers' Association will be held on Jan. 11, 12, and 13, 1888, in Red Ribbon Hall, at Lincoln, Nebr. The Lindell Hotel will give reduced rates to members. Those who come should get a receipt from their home railroad agents on starting to Lincoln, as railroad companies require fifty receipts to entitle members to reduced rates. President Ryan requests all members to have questions ready for the first evening, so that they can be arranged in order. The programme is as follows :

What are the essential points in locating an apiary ?—J. G. Hodges and J. L. Blanchard.

Apiculture as a profitable and permanent occupation.—A. D. Keller and C. Ceelay.

How does bee-keeping pay compared with other occupations?—R.E Leach and J.Rodgers.

How to obtain the most honey in the best marketable shape.—Mrs. J. N. Heater and M. Tower.

How much, if any, comb foundation should be used ?—E. Kretchmer and E. Tower.

Diseases of bees, their causes and remedies.—E. M. Hayhurst.

Is spring stimulating advisable ? If so, with what ?—T. L. Von Dorn and W. J. Lynch.

How best to prepare honey to exhibit for sale or for show.—Mrs. J. N. Heater and E. W. Whitcomb.

Which is more profitable, comb or extracted honey ?—A. Johnson and M. D. Abbott.

Increase, natural or artificial ?—R. V. Muir and J. F. Polk.

Should bees be frquently examined ? and at what temperature should the atmosphere be ?—Mrs. L. Marshall and Jas. Jardine.

Spring work with bees.—E. M. Hayhurst.

Fall breeding and spring dwindling.—J. N. Heater and E. Kretchmer.

Honey-plants of Nebraska.—Professor C. E. Bessey, of the State University.

Rearing queens and clipping their wings.—J. M. Young.

H. N. PATTERSON, *Sec.*

Vermont State Convention.

The 14th annual convention of the Vermont Bee-Keepers' Association will be held at the Van Ness House at Burlington, Vt., on Wednesday and Thursday, Jan. 18 and 19, 1888. The order of exercises is as follows :

WEDNESDAY EVENING, 1:30 P. M.—Convention called to order by the President. Reading of the minutes of the last meeting. Reading of the Constitution, etc.

At 2:15.—A paper by W. H. Wheatley, St. Johnsbury, on "Vermont Bees." Followed by discussion of the subject by the convention.

At 2:45—"Experience of Fifteen Years in Bee-Keeping," by H.B. Isham, New Haven.

At 3:00—Discussion : "Is it advisable to insert empty combs in the centre of brood-nests for the purpose of spreading brood in the spring ?" Opened by F. M. Wright.

At 3:30—Discussion : "What is the best method to prevent an increase in colonies ?" Led by J. E. Crane.

WEDNESDAY EVENING, 6:45—Appointment of committees.

At 7:00—Discussion : "Bee-keeping in Vermont ; does it pay ?" "Its hindrances," N. G. Webster, Bakersfield. "Its Expenses," J. H. Larabee, Larabee's Point. "Its profits," Geo. Beecher, Essex. "As a business," H. L. Leonard, Brandon.

At 1:15—Essay : "The pleasure and difficulties of bee-keeping ;" by a lady bee-keeper.

At 8:15—Essay : "Should women keep bees and join the Bee-Keepers' Association ?" by a lady bee-keeper.

THURSDAY FORENOON, 9:00—Reports of the Secretary and Treasurer. Reports of committees, organization, etc.

At 10:15—Discussion : "Is it profitable to use full sheets of foundation in the brood-chamber ?" Opened by F. H. McFarland, St. Albans.

At 10:45—Question Drawer. A.E.Manum, Bristol.

At 11:15 — Discussion : "Marketing honey." Led by J. E. Crane.

Adjournment.

R. H. HOLMES, Sec.

The Vermont Association are to be congratulated upon the nice programme of 12 pages which they have issued.

Ohio State Convention.

The fifth annual Ohio State Bee-keepers' Convention will be held in the United States Hotel, on the corner of High and Town Sts., Columbus, O., on Jan. 10 and 11, 1888. An interesting programme will be arranged. Reduced rates at the hotel are $1.50 for each person, double, or $2.00 per day if single. There will be reduced rates of travel, particulars of which will be given later. It is desirable to know who can be present. Will you kindly notify me by postal card, at Bluffton, Ohio. The following is the programme :

TUESDAY, 9 A. M.—Reading the minutes of last meeting. Receiving members and collecting dues. Reports of the Secretary and Treasurer, and standing committees.

Bee-conventions, how to make them a success, and their value to bee-keepers.—A.I.Root.

Discussion on the Sectional Brood Chamber and its advantages.—Led by Dr. G. L. Tinker.

Reversing, and has it come to stay ?—C. M. Kingsbury.

TUESDAY, 1 P. M.—Discussion on Bee-keeping in connection with other pursuits.—Led be F. A. Eaton.

Bee-keeping for women.—Mrs. Jennie Culp.

Bee-keeping as an exclusive pursuit.—Dr. C. C. Miller.

TUESDAY, 7 P. M.—Wood vs. tin separators: is it profitable to dispense with either?—Dr. Besse

T-supers and other surplus arrangements in connection with bee-spaces.—E. R. Root.

Discussion on, *Resolved*, That bee-keeping as a business is more profitable than farming.

Opening of the question-box.—S. R. Morris.

WEDNESDAY, 9 A. M.—Extracted honey : its production, and the best method of marketing it.—Dr. A. B. Mason.

The commission man and his relation to the honey producer, as affecting the sale and price of honey.—Chas. F. Muth.

WEDNESDAY, 1 P. M.—Tiering-up : its advantages.—J. W. Newlove.

Freezing bees.—C. E. Jones.

In-door vs. out-door wintering of bees, and the advantages of the former.—H. R. Boardman.

Election of officers for the ensuing year.

FRANK A. EATON, *Sec.*

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

CONVENTION NOTICES.

☞ The Eastern New York Bee-Keepers' Association will meet on Jan. 24, 25 and 26, 1888, in Agricultural Hall, at Albany, N. Y. Every one is welcome. We are sure to have a pleasant an profitable time.
JOHN ASPINWALL, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec.*

☞ The annual convention of the Vermont State Bee-Keepers' Association will be held at the Van Ness House, in Burlington, Vt., on the Jan. 18 and 19, 1888. R. H. HOLMES, *Sec.*

☞ The Ontario Bee-Keepers' Association will hold its annual meeting at Woodstock, Ontario, on Tuesday and Wednesday, Jan. 10 and 11, 1888.
W. COUSE, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold their annual meeting at Cortland, N. Y., on Tuesday, Jan. 10, 1888, for the election of officers and to transact such business as may come before the meeting. All bee-keepers are invited.
R. L. WEAVER, *Sec.*

☞ The annual meeting of the Northwestern Illinois and Southeastern Wisconsin Bee-Keepers' Association will be held in G. A. R. Hall, corner of State & North Main Sts., in Rockford, Ills., on Jan. 17 and 18, 1888. Dr. Miller will be present, and a good programme is in course of preparation.
D. A. FULLER, *Sec.*

☞ The Northeastern Ohio, Northern Pennsylvania and Western New York Bee-Keepers' Association will hold its ninth annual convention in the Commercial House Parlor, in Meadville, Penn., on Wednesday and Thursday, January 25 and 26, 1888. Reduced hotel rates have been secured.
C. H. COON, *Sec.*

Robert's Rules of Order for deliberative assemblies, published by S. C. Griggs & Co., Chicago, is "a gem" in appearance, and an invaluable guide for those who are called to preside over conventions of bee-keepers and others. It has a table, covering two pages, which will aid a chairman to decide 200 questions of importance, without turning a leaf. Price 75 cents.

The Apiculturist for January came in good time, and is as usual full of good things of interest to every apiarist. "Prevention of Increase" is the chief topic in this number, and it contains three good articles on that subject. The BEE JOURNAL and the "Apiculturist" for 1888 can be obtained for $1.80.

Please to get your Neighbor who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell lots of it.

Business Notices.

OUR CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
The Apiculturist	2 00	1 80
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 7 above-named papers	5 40	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Simmons' Non-Swarming	1 50	1 25
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90

One yearly subscription for the AMERICAN BEE JOURNAL must be ordered with each paper or book, in order to take advantage of the prices named in the last column.

We pay 20 cents per pound, delivered here, for good Yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

We Supply Chapman Honey-Plant seed at the following prices: One ounce, 40 cts; 4 ounces, $1; ½ pound, $1.75; 1 lb., $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Sweet Clover, (*Melilotus alba*), furnishes the most reliable crop of honey from July until frost, and at the same time it furnishes the most delicious honey, light in color, and thick in body. It may be sown in waste places, fence corners, or on the roadside, at any time of the year.

Sow two years running, on the same land, and the honey crop will be without intermission. Money invested in Sweet Clover Seed will prove a good investment. The Seed may be obtained at this office at the following prices: $6.00 per bushel (60 lbs.); $1.75 per peck, or 20 cents per pound.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Red Labels for one-pound pails of honey, size 3x4½ inches.—We have now gotten up a lot of these Labels, and can supply them at the following prices: 100 for $1.00; 250 for $1.50; 500 for $2.00; 1,000 for $3.00; all with name and address of apiarist printed on them—by mail, postpaid.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lb. sections 18@20c.; 2-lbs., 16@18c.; dark 1-lbs. 17@18c.; 2-lbs. 15@16c. Extracted, firm at 7@10c., depending upon the quality, and style of package. Dark, 2 or 3 cts. below above quotations. Receipts light and demand fair.
BEESWAX.—22@23c.
Dec. 20. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—Prices range from 18@20c. for best grades, with light demand; 2-lb. sections, 15@16c. Dark is not wanted. Extracted is steady at 7@10c., according to style of package.
BEESWAX.—20@23c. R. A. BURNETT,
Dec. 7. 161 South Water St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 19@20c. Extracted, 11@12c. Demand brisk
BEESWAX.—21@23c.
Dec. 15. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lbs. sections sell at 19@20 cts. Extracted, 7@8c. Demand small.
BEESWAX.—22@25c.
Dec. 15 A. C. KENDEL, 115 Ontario St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 16@18c.; the same in 2-lbs., 14@16c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c. Market dull.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Dec. 20. 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote: Choice white 1-lbs., 18@20c.; dark, 16@18c.; choice white 2-lbs., 18c.; dark, 15 to 16c. Extracted, white, in 60-lb. tin cans, 9c.; in barrels, 8c.; dark, in barrels, 5@6c. California 2-lb. white comb, 18c.; dark, 16c. Extracted, white, in 60-lb. cans, 8@9c.; amber, 8c.
BEESWAX.—No. 1, 20c.; No. 2, 16@18c.
Dec. 19. CLEMONS, CLOON & CO., cor 4th & Walnut

ST. LOUIS.

HONEY.—Choice comb, 18@20c.; latter price for choice white clover in good condition. Strained, in barrels, 5@6c. Extra fancy, of bright color and in No. 1 packages, ¼-cent advance on above. Extracted, in bbls., 6½@7c.; in cans, 7 to 9c.—Short crop indicates further advance in prices.
BEESWAX.—20c. for prime.
Dec. 19. D. G. TUTT & CO., Commercial St.

CINCINNATI.

HONEY.—We quote extracted at 4@9c. per lb. Choice comb, 18@20c., in the jobbing way. The demand for extracted exceeds arrivals, and for comb the demand is tame.
BEESWAX.—Demand good—20@22c. per lb. for good to choice yellow, on arrival.
Dec. 12. C. F. MUTH & SON. Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17@19c.; fancy 2-lbs., 15@16c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Extracted, white, 9@10c.; buckwheat, 6@7c.
Demand has slackened some, and to make sales we must shade above prices. About Jan. 15 we expect a more active demand.
Dec. 31. F. G. STROHMEYER & CO., 122 Water St

PHILADELPHIA.

HONEY.—Fancy white 1-lbs., 18@19c.; fair 1-lbs. 17c.; dark 1-lbs. are slow sale at 14@15c.; fancy 2 lbs., white, 15@16c.; buckwheat fancy 1-lbs., 13@14 cts.; common, 12c. Prices tend downward.
BEESWAX.—23@24c.
Dec. 11. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lbs., 20c.; fair, 19@20c.; 2-lbs., 18@19c.; 3-lbs., 16@18c. White extracted in kegs or half-barrels, 9½@9¾c.; in pails or cans, 8½ to 10c.; amber, in ½-barrels, 9¼@9½c.; dark in kegs and barrels, 7@7½c. Demand good, supply fair.
BEESWAX.—22@25c.
Dec. 15. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 10@13c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.
BEESWAX.—20@24c.
Dec. 31. SCHACHT & LEMCKE, 122-124 Davis St

BOSTON.

HONEY.—New crop, 1-lb. sections, 18@20c.; 2-lb. sections, 17@18c. Extracted, 6@8c. The market is not very brisk and sales are only fair.
BEESWAX.—25 cts. per lb.
Dec. 10. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White comb, 17@19c.; amber, 12½@15c. Light amber to white extracted, 7½@8c.; amber, dark and candied, 6¾@7¼c. Market firm and stocks light.
BEESWAX.—22@23c.
Dec. 12. O. B. SMITH & CO., 423 Front St.

THE AMERICAN BEE JOURNAL CIRCULATES ALL OVER THE WORLD.
PUBLISHED BY THOS. G. NEWMAN & SON, CHICAGO, ILL.

THOMAS G. NEWMAN, Editor.

Vol. XXIV. Jan. 18, 1888. No. 3.

EDITORIAL BUZZINGS.

So Far, the general report is that the bees are wintering well. We have had many cold spells, but such have been of short duration, and the bees have not suffered any inconvenience on that score. What the rest of the winter may be, is as yet an uncertainty.

New Patents.—Two new patents on bee-hives were granted on Dec. 20, 1887. One to T. M. Cobb and the other to F. Danzenbaker. The number of the former being 375,261 ; and the latter 875,269. What the special features are we know not.

The Ontario bee-keepers met in convention at Woodstock last week, and had an interesting meeting. Martin Emigh was elected President, and J. B. Hall Vice-President. We expect to publish a report of the proceedings next week.

The New York Bee-Keepers are now in session. The nineteenth State Convention met on Tuesday of this week for a three days' session at Utica. We are sorry we did not get the programme until our last week's issue was on the press, or we should have published it entire. We hope that the meeting will be one of great interest and enthusiasm.

Father Laugstroth is again heard from, and our readers may expect an article from his pen in next week's BEE JOURNAL. He intends to go to Cincinnati this week to obtain medical treatment to relieve him from his distressing "head troubles," which is promised by the physician he intends to visit. We hope he will succeed in obtaining a cure.

Drunken Loafers.—That is what the New Orleans *Picayune* calls the bees. It says :

A lady living in Rappahannock County, Va., had 12 colonies of bees, which were very valuable until a distillery was started in the neighborhood. Since it was started, however, the bees pay frequent visits to the still, get very drunk, and are of little profit.

The Chicago *Herald* commenting upon this circumstance, gets off the following, calling them "boozy bees :"

A lady in Virginia has a colony of bees that go to a neighboring distillery and get tipsy. This is a sad revelation for the moralist who is fond of holding up the bee as a bright and shining model for thrift, sobriety and industry. The didactic poetry regarding the little boozy bee seems to be in need of revision.

Mrs. Mahala B. Chaddock remarks very pointedly on the above in the *Farm, Field and Stockman* as follows :

Bees never work on grapes or peaches, neither do they frequent cider-mills or distilleries, except when there is no honey in the flowers. At such times there is no honey coming in, or not enough for the bees to store it.

No one need have the least fear of contracting the taste for whisky from eating honey, as there never was anything more true than this. If bees are gathering honey, they do not trouble distilleries ; if they go to the stills they are not gathering honey.

The Reaction Comes, as well to the grape-bees controversy as to many other things. We find the following item now "going the rounds" in the political papers, and such will do much to dispel the prejudices of grape-growers to the bees. Here is the item :

BEES INJURING GRAPES.—The Columbus Horticultural Society reports to the *Country Gentleman* an experiment performed by Mr. McLain, of Aurora, Ills. In a grape-house well ventilated, but bee-proof, he places grapes and other ripe fruits sound as well as imperfect. Three colonies of hungry bees, hived on empty combs, were placed within. They visited the fruit in great numbers, and took advantage of every crack or opening or accidental puncture. They never molested sound fruit. If the skin of a grape was broken or burst from over-ripeness, the bees sucked the exposed juices. They did not attempt to break the skin. The experiment was continued 30 days, with 20 sorts of grapes, with the same result. When grapes were punctured with needles, the bees sucked the juice out only so far as they could reach.

W. R. Graham, Greenville, Texas, on Jan. 10, 1888, writes his congratulations on the BEE JOURNAL for 1888, and adds :

I obtained nine cash premiums at the Texas State Fair and Dallas Exposition, on bees, honey, and bee-fixtures.

"Up to this Time I think bees are wintering good. The weather has been favorable ; not much zero weather." So writes M. L. Spencer, of Little Genesee, N. Y. He then adds : "I congratulate you on the appearance of the AMERICAN BEE JOURNAL. I think it much improved for 1888."

Bees from Carniola or Krain, in Austria, are generally known in Europe as Krainer bees ; in America as Carniolan bees. Many of these queens are now sent across the ocean by mail, every year, by Mr. Benton, of Munich. Mr. B. is an American, and used to attend the Mich. Agricultural College.

Carniola is a province of Austria, just south of Vienna, and nearly borders Italy on the northeast—the Adriatic intervening. A continuation of the Alpine Mountain range runs through the province—and hence the hardihood of the bees from that mountainous region.

Cabbage and Celery Plants.—A guide to their successful propagation. A new manual of instruction by Isaac F. Tillinghast. Seed and plant grower, and editor of *Seed Time and Harvest*, LaPlume, Pa., 32 pages. Illustrated. Price 25 cents.

This little volume relates in an interesting manner how two farmer's boys started a vegetable plant trade, on a farm in the country, which developed into a large seed and plant business, which now reaches into every corner and section of the Union. It gives modern plans for constructing low-cost hot-beds and greenhouses, to be heated by fermenting manure, fire flues, and hot water. Also, how to successfully grow cabbage and celery plants in the open ground, with certain methods of protecting them from destructive insects and diseases, which have not heretofore been given to the public.

There are no doubt thousands of locations in which, with the aid of this little instructor, an active farmer's boy, or established market gardener, might work up a very remunerative plant business with very little expense or trouble.

☞ We will send the above and the BEE JOURNAL for one year, for $1.15.

Every One having a garden, or even a shrub, should own and study Vick's Floral Guide, published at Rochester, N. Y., price 10 cents, and a due-bill for 10 cents worth of seeds accompanies the Guide.

Interesting Library.—Mr. S. B. Brillhart, of Kendallville, Ind., writes thus :

For the past five years I have had the AMERICAN BEE JOURNAL bound, and it is beginning to make a very interesting library on "the bee." The BEE JOURNAL is just what every one who owns bees ought to take. It *pays*, and that is a good reason. I usually keep about 25 colonies of bees.

New Catalogues for 1888 are on our desk, from the following persons:

J. D. Goodrich, East Hardwick, Vt.—16 pages—Apiarian Supplies.

H. G. Frame, North Manchester, Ind.—4 pages—Bees, Queens, etc.

Geo. H. Kirkpatrick, New Paris, O.—16 pages—Bees and Supplies.

A. D. Hale, Deer Lodge, Tenn.—20 pages—Poultry.

Cole & Brother, Pella, Iowa—40 pages—Vegetable, Flower and Garden Seeds.

GLEAMS OF NEWS.

The Next Convention, etc.—Concerning the re-location of the next annual meeting of the North American Bee-Keepers' Society, and other subjects, Prof. A. J. Cook writes as follows:

AGRICULTURAL COLLEGE, MICH., Jan. 12, 1888.

DEAR MR. EDITOR:—Dr. Mason is, as usual, wise in his suggestions. Our calamity is our "magnificent distances." It costs so much to attend our meetings! This is why we cannot hope to equal Europe. Whatever, then, will lessen expense is to be advocated. If the Centennial will give reduced rates to Columbus, O., then I vote for Columbus. Again, it would be nearer the South; and as I remember the cordial greeting that we received at Louisville some years since, I feel desirous to meet the Southern bee-keepers again. I vote for Columbus.

Ohio Horticulturists and Bees.

I am glad that Dr. Mason is stirring up the Ohio horticulturists on the bee-question. I had the honor of addressing that Association a year ago, at their annual meeting, and I told plain truths about bees. The truth is, the value of bees, aside from the honey which they gather, is so important that all, especially farmers and horticulturists, should know of it. Therefore I lose no suitable occasion to spread this knowledge. I think that all bee-keepers should be equally ready. We can thus create right views where ignorance and prejudice now reign.

Fraternal Good-Will.

The words from our good friend, Mr. McKnight, are good reading. Who could imagine Dr. Mason with malice in his heart? If any man in America has "good-will to man" written all over his face, that man is our big, fat, jolly friend of Toledo. I could but think, as I read Mr. McKnight's article, how the bee-periodicals had changed in the past few years. In the olden time, quarrels, invective and vindictive thrusts were all too common. Now everybody is kindly disposed, and a good brotherly temper pervades every page of all our bee-papers. That this spirit will never be replaced, is my hope, as it is my belief.

As to changing the location of the next meeting, the executive committee have full power under the Constitution to make the change, if they are satisfied of its desirability. The points of advantage mentioned by Dr. Mason are ample, in our opinion, and the change should be decided upon, and notice given as soon as possible.

The location of the "Centennial Exposition of the Ohio Valley and Central States" is at Cincinnati, O., and the time of holding it is from July 4 to Oct. 27, 1887. As Brother Muth was the first to suggest the holding of the next meeting of the North American Bee-Keepers' Society at Cincinnati because of this Centennial Exposition, cheap fares, etc., and as he is "a *host*" to make good arrangements for such a meeting—we vote for Cincinnati.

The Centennial Exposition in Columbus, O., is to be held in September, a trifle too early for a successful bee-meeting.

As to the fraternal and friendly feeling mentioned by Prof. Cook, no one rejoices more in its "exhibition" than do we; indeed it is our opinion that no one should attempt to write on matters apicultural, with any other intent or purpose; in its absence, let the pen be dropped, and not resumed until such a disposition is in full possession.

Experiment in Freezing Bees.—Mr. J. C. Haines, of Herkimer County, N. Y., writes to *Gleanings in Bee-Culture*, in relation to an experiment in freezing bees, to find if they might again be revived, as follows:

I got a pan of clean, dry snow, just after it had fallen, set it in the barn to keep it soft and light, and on Nov. 30, about 3 p.m., I opened a strong colony, smoked slightly. In a little while I took a small handful and dropped them in the pan of snow. As soon as they were chilled, I put some in a dry paper box, and set them in a small open building. Next morning we brought two of each lot into the house, put them on the mantel near the kitchen stove, where it was nice and warm (not hot), but they showed no signs of life. We left them in all day, and got more of each lot, but they showed no signs of life at all. To-day I brought more in, but could not see any signs of life. They are quite dead. We opened some and they seemed to be filled with honey.

At the time when we put the bees in the snow in the first place, it thawed some on the south side of the house, and the bees were bright and active, and seemed quite strong; but it was very cold that night. Next morning the thermometer was down to 5° below zero, and the next day was very cold. The thermometer was at zero. So you see if there is anything in its being cold, they had the benefit of it.

Neat as Wax.—Mr. J. M. Shuck, of Des Moines, Iowa, writes us as follows:

No. 1, Vol. XXIV, of the AMERICAN BEE JOURNAL is received, and in a new dress, greatly improved in appearance. It looks like the baby's first tooth, neat as wax. It is certainly equipped for a trip "all around the world."

Succeeded Grandly.—The *Republican Standard*, published at New Bedford, Mass., gives us this unsolicited notice, for which it has our thanks:

When the AMERICAN BEE JOURNAL commenced its appearance as a weekly, it was prophesied that it would not succeed, but it has grandly. Every number is full of useful information.

The *Journal* of Lewiston, Maine, remarks as follows on the same topic:

The AMERICAN BEE JOURNAL is the oldest bee-paper in America, but that isn't all; it stands at the head in bee-literature, giving from week to week the best thought and practice in apiarian art. No one who keeps bees can expend a dollar to better advantage than to subscribe for this JOURNAL.

The Canadian *Bee Journal* is a year behind the times. It apologized on the first page for having "1887" on the cover, and just above the apology is the date in black-faced type, "Jan. 4, 1887." In this case "two wrongs will not make one right." But mistakes will happen in the best regulated families.

The Review came promptly to our desk, and is very attractive in appearance. Its reading matter is much superior to the ordinary "run" of such, in the various new bee-papers. The complete list of contents may be found on page 47.

The principal topic in this first number is "Disturbing bees in winter," which the editor "sums up" in these words:

What bee-keeper that does not delight, in winter, when the mercury is coquetting with zero, to enter a comfortable bee-cellar, in which the hives stand in long rows, tier above tier, and peep into their entrances and see the bees hanging from the combs in golden-brown clusters? And how many in making these visits have not, sometimes, felt that they were trespassing upon forbidden ground; that the price of these admiring glances might be disease and death to the admired? We have often had such thoughts; have felt that a visit in winter to the bee-cellar, or a peep into a hive out-of-doors, was something like a stolen pleasure; but these thoughts will come no more, for we are thoroughly convinced that such examinations do no harm. That bees can be moved in winter, or the hives opened, combs taken out, bees examined, etc., and no injurious results ever follow, we are not so certain; but that such treatment seldom results in harm, we are well satisfied. We recollect reading a report of some bee-keeper who lost part of his bees from starvation in the cellar. He knew they were short of stores, but feared to disturb them, lest it should result in greater loss than would starvation. Had we colonies of bees that we thought might be lacking in stores, we should unhesitatingly examine them, and feed them, too, if we found them in need.

The frequent and extensive handling of bees during winter, indulged in by some of our correspondents, might, perhaps, have had less happy closing chapters, had the food been of a different character; in fact, all are quite well agreed that frequent disturbance may aggravate the evils arising from unsuitable food; and, as the years roll by, we are becoming more and more convinced that *food* is the pivotal point upon which turns the question of wintering bees in a Northern climate. Our faith in the popular belief that disturbing bees in winter is necessarily injurious has been entirely destroyed; and our advice would be: If you wish to know how your bees are wintering, go and examine them—quietly and carefully, and if you think they need food, or any other attention, make the necessary examination and give the required care with but little fear that the disturbance will cause injury.

We wish the *Review* a long and prosperous career, and its editor all the success he could wish for himself. No. 1 is excellent, and should please the most fastidious.

We are Sorry to learn that our friend Paul L. Viallon, of Bayou Goula, La., has been quite ill for some time. Bronchitis is the cause of the trouble. He is now recovering, and this will be good news to our readers, as he is to give us answers to queries hereafter. The first answers from him appear in this number of the BEE JOURNAL. In reference to moving an apiary, he remarks as follows:

A few years since I moved my apiary about 5 acres, during a cold day. I placed a slanting board in front of each hive, as advised by Mr. Dadant, and I do not think that a handful of bees returned to the old location.

The School of Sorrow.

BY J. K. LUDLUM.

The mills of God grind slowly;
They grind exceedingly small,
For whoso' the Father loveth
He chasteneth, one and all.

Sunlight will ripen harvest,
But without clouds and rain
The seeds in spring-time scattered
Could never grow into grain.

Smiles are soothing and pleasant,
Happiness good to behold,
But without the fire refining
How could we test the gold?

If we should suffer no sorrow,
How could we count the cost?
Would not our hearts grow careless?
All our sympathies lost?

"Sorrow makes all men brothers,"
Sorrows our hearts refine;
The whirlwind smiting the forest
Tests the strength of the pine.

Aye, bitter the school of sorrow,
Bitter the cross and pain;
But trial worketh patience,
And loss is followed by gain.

—*Written for the Ætna.*

BIOGRAPHICAL.

MR. IVAR S. YOUNG, OUR VISITOR FROM NORWAY.

We have received the following letter from Mr. Young, and in order that our readers may get an idea of his personal appearance, we have prepared an engraving from the photograph which he presented to us for our Bee-Keepers' album. Mr. Young's letter reads thus:

MESSRS. THOS. G. NEWMAN & SON:—Will you kindly allow me to express, through the AMERICAN BEE JOURNAL, my most cordial thanks for all the friendliness and affability which were so profusely shown to me during my memorable visit amongst the bee-friends of the United States and Canada. I will, as long as I live, take delight in thinking of my trip, and never! no never! forget the World's most able bee-keepers, nor their exceeding hospitality towards me, as a stranger.

I only regret, that my time was so limited, that I had no opportunity of personally calling on the many more, whose names were so well known and dear to me from the bee-periodicals.

Respectfully yours,
IVAR S. YOUNG.

The apiarists of America will appreciate Mr. Young's expressions of kind feeling and regard, and duly reciprocate them, for he may very properly be called "the father of modern bee-keeping in Norway."

Mr. Young's visit to America was at the instigation of the Norwegian Government, and at its expense; and his mission was to gather up all the information possible to be obtained in reference to modern and progressive apiculture in America, together with details of methods and samples of implements. Such will be used in the interest of "apiculture as an industry" in Norway.

The Norwegian Bee-Keepers' Society was organized in 1884, and has about 1,500 members. It also publishes a monthly bee-paper, entitled *Tidskrift for biskjotsel* at Christiania, Norway, of which Mr. Young is the editor, and every member receives a copy free.

Mr. Young has also published a book on apiculture, entitled "Praktisk lommebog i tidsmæssig biskjotsel," which is well printed and illustrated.

Mr. Young has "written up" his trip in America, and it is published in his paper. We cannot read it, but expect to have it translated, and in a future number we shall present the salient points to our readers. When Mr. Young was visiting Mr. Holter-

MR. IVAR S. YOUNG.

mann, editor of the *Canadian Honey Producer*, he obtained and published the following facts concerning

Bee-Keeping in Norway.

We had a very pleasant and instructive conversation with Mr. Young, and, of course, made all possible inquiries about the state of bee-keeping in Norway.

Bees can be kept very well as far north as Drontheim. In Norway, as here, there is no method by which the number of colonies can be ascertained, but the number of colonies kept are estimated at about 40,000; of these about 2,000 are kept in the movable-frame hive, the balance in straw skeps.

Wintering is done very successfully in some of the old straw-skep hives. Many think the bees in the movable-frame hive do not winter as well, but such is not the case; on the contrary, the honey taken by means of the movable-frame hive is mostly extracted. On account of so few frame hives, and but little comb foundation being used, the average yield per colony for the country is not great, but he thinks if properly conducted it would be 70 pounds to 100 pounds per colony.

The chief sources of honey are clover, basswood, and heather. The clover is mostly Alsike; there is but little white.

Health and Home Library.—The first number of this periodical is on our desk. It contains 100 pages of the most interesting articles concerning *health* and *home* life. It should be read by every parent, and especially mothers. It is to be published quarterly at $1 a year, at Chicago, Ills.

COMMENDATIONS.

Clean as a New Pin.—Mr. Geo. E. Hilton, Fremont, Mich., expresses himself thus:

The first number of the AMERICAN BEE JOURNAL for the new year is at hand, bright, spicy and clean as a new pin, in its new attire. I want to congratulate you on the cut you have made of my apiary. It has been published several times in different forms, but I have not seen a picture that pleased me as well as the one you produced.

How Can it be Done?—Mr. J. M. Hicks, Battle Ground, Ind., on Jan. 12, 1888, wrote us as follows:

This morning finds me at home, but not very well. I am suffering from a severe cold; I hope to be out in a few days again. I see you are out on time with the good old reliable AMERICAN BEE JOURNAL. The great wonder to me is, how ON EARTH you can afford so good a journal, 52 times a year, for so little pay as $1? Yet I trust it pays you to do so.

Never Lost a Copy.—Mr. A. B. Bray, Bois D'Arc, Mo., on Jan. 9, 1888, writes thus:

When I opened the BEE JOURNAL for Jan. 4, 1888, I scarcely knew what it was; a change had been made in appearance from beginning to end. I do not see how you could have made such improvements every year since 1874 as you have. I have been taking the BEE JOURNAL for years, and I have yet my first paper to lose. I have received three times the value of the JOURNAL in information every year. It will richly repay any bee-keeper's faithful perusal.

Much Pleased.—Mr. Charles Solveson, of Nashotah, Wis., on Jan. 5, 1888, wrote thus of his surprise and pleasure upon receiving the first number of our paper for this year:

I have just received No. 1 of the AMERICAN BEE JOURNAL for 1888, and to say that I am pleased with its new appearance, is but stating it mildly; it appeared so clean and white that I involuntarily got up and washed my hands (they were not dirty) ere I allowed myself to feast on its many good things. May you long live to lead the fraternity in its progressive march!

Not Stuck Up!—Dr. A. B. Mason, of Auburndale, O., upon receiving the first number of the BEE JOURNAL for this year, wrote us as follows:

FRIEND NEWMAN:—What have you "been up to?" "What for have you gone and spoiled the old reliable AMERICAN BEE JOURNAL for?" I missed its old familiar face this week, but in its place came a "spic, span" new and fresh one, but "*awfully* stuck up." As it don't "slop over" as "stuck up" arrangements usually do, I guess I can get used to it. It looks nice with its new heading. You know it is "my first love" in the line of bee-periodicals. I began taking it when the lamented Samuel Wagner was its editor. I like the other bee-papers, but none of them can take its place. Its make-up and *matter* are very *good*.

QUERIES & REPLIES.

DO SWARMS LEAVE HIVES WITH TWO QUEENS?

Written for the American Bee Journal

Query 506.—Is there such a thing as a swarm leaving a hive with two queens?—R.

Yes.—J. P. H. BROWN.

Yes.—W. Z. HUTCHINSON.

Yes, or a dozen.—C. C. MILLER.

Yes; I have known them to leave with 8, but there were none left in the hive.—A. B. MASON.

Yes; an after-swarm sometimes has 5 or 6.—MRS. L. HARRISON.

Yes, why not, if it happens to be an after-swarm?—EUGENE SECOR.

Yes. Nearly all swarms except the first have two or more queens.—M. MAHIN.

Yes, whether the querist means going with two queens or leaving two queens in the hive; it is not uncommon.—R. L. TAYLOR.

Yes; second and third swarms often have several queens. First swarms I believe never do.—C. H. DIBBERN.

Yes. You will often find second swarms with 2 queens; and with Syrians, 3 or more queens.—H. D. CUTTING.

Second swarms will often do so. I never saw a first swarm do so, unless it had been retarded until a young queen was ready to hatch, etc.—P. L. VIALLON.

Yes, with as high as 12 to 20, and often from 2 to 5.—G. M. DOOLITTLE.

Certainly there is. After-swarms or first swarms that leave the hive with young, unfertile queens, often have two or perhaps a dozen queens each.—JAMES HEDDON.

The question has two meanings, and we would answer yes to both. Both the swarm and the old colony may have 2 queens.—DADANT & SON.

Yes, with 4 or 5. This is never true of first swarms, but frequently it is true of after swarms.—A. J. COOK.

From one to half-a-dozen virgin queens may go out with a swarm, but I have never known two laying queens to lead a swarm.—G. L. TINKER.

I never heard of such a case. This is one of those theoretical questions that no one can answer without an experience of the kind mentioned.—J. E. POND.

I do not know that I catch the idea that was in your mind when you wrote the query. If you mean a prime or *first* swarm, there is never but one queen with them, unless another queen happens to be in the air at the time and joins the swarm. It is possible for a swarm to be delayed by rainy weather until the first young queen hatches, in which case she might go with the swarm if she was old enough to fly. This would give the swarm 2 queens—the mother and her virgin daughter. I have seen this state of things once or twice. In case an old queen is superseded, or dies just before a prime swarm was to issue, there will be delay until several of the young queens hatch; and when the swarm issues, there may be more than one queen with the swarm. I have seen a half dozen or more virgin queens with an "after swarm."—G. W. DEMAREE.

The old queen goes with the first swarm—that swarm will have but one accompanying queen; but with "after-swarms" (either second or third) there are often more than one, and sometimes several young queens. —THE EDITOR.

THE CAUSE OF ABNORMAL SWARMING.

Written for the American Bee Journal

Query 507.—What would be the cause of a colony leaving a hive early in the spring, with plenty of honey in store, and otherwise all right?—N.

Too few bees.—J. P. H. BROWN.

I do not know. Possibly old bees have died off, leaving more brood than can be covered.—C. C. MILLER.

I could not give a correct reply unless I knew more about the circumstances.—H. D. CUTTING.

Weak colonies sometimes "swarm out" in the spring, when everything is apparently all right.—W. Z. HUTCHINSON.

Lack of pollen. There might be other causes, but then they would not be, as in the question, "all right."—DADANT & SON.

It is unknown to me. I have had several do so during my 18 years' experience.—G. M. DOOLITTLE.

I never had such a case. I do not think that we have such a case in the South.—P. L. VIALLON.

If there are plenty of stores, "and otherwise all right," it would *not* leave. Something is wrong when it leaves.—A. B. MASON.

If they are "otherwise all right," I do not believe they *will* desert the hive. They do so because something is wrong.—EUGENE SECOR.

I do not think that they leave when "otherwise all right." This is proof that they are not all right. There is likely some hidden cause, probably not understood.—MRS. L. HARRISON.

When a colony of bees having plenty of honey leaves the hive early in the spring, it is not "otherwise all right." Generally only small colonies desert the hive, and those that are more or less diseased.—M. MAHIN.

Taking the statement literally, there would be no cause; but bees sometimes vacate their hive on account of discontent, arising from some inscrutable cause.—R. L. TAYLOR.

Sometimes a colony will leave when it is hopelessly weak, and other bees commence robbing them. In case of a strong colony deserting thus, there is some dissatisfaction either with the stores, the hive, or the surroundings.—C. H. DIBBERN.

I should say all is not right. There must be something amiss, even though not patent to the bee-keeper.—A. J. COOK.

A colony will never leave the hive in the spring, if *everything* is all right. The hive and its contents, all but the bees, may be all right, and yet they leave; but in that case the bees are diseased. Such things usually result from the notorious bee-diarrhea.—JAMES HEDDON.

The most common cause is too few bees. If weak colonies are placed in warm quarters on cool nights in the spring, I think that it would be rare to have them swarm out with plenty of honey in store.—G. L. TINKER.

I cannot imagine such a case. If querists would state actual occurrences, with all the facts connected therewith, answers of value could be given thereto. To cause a colony to leave, something *must* be wrong.—J. E. POND.

In the early spring there are but few young bees in the hive; and when the bees take a general flight, as they frequently do on warm days in the spring, the queen finds herself nearly deserted, and under her excitement she takes wing with the frolicking workers. Generally they return all right, but if the excitement runs high on account of the presence of the queen in the aerial flight, it results in a case of "swarming out." This state of things becomes habitual with some weak colonies in early spring, and sometimes in the fall. The remedy is, to put a queen-excluder over the entrance of the hive; this will prevent the queen from taking wing when the workers take an airing. The above is the "cause," though there may be exceptions to the rule, as in most other rules.—G. W. DEMAREE.

If bees leave their hive in a body in the spring-time it shows that they are dissatisfied with something in the hive, or its surroundings, or else the bees are diseased. They often leave

when short of stores, or lacking in bees.—THE EDITOR.

COLONIES BUILDING UP IN REVERSIBLE HIVES.

Written for the American Bee Journal

Query 508.—Will bees build up as strong in numbers by the use of sectional brood-chambers of the Heddon reversible pattern, as they will upon combs of as large size as the Simplicity or Quinby pattern?—H.

Most certainly.—W. Z. HUTCHINSON.

I should not expect much difference. —C. C. MILLER.

I think that there is no doubt of it. —A. J. COOK.

I think so, but my experience is limited.—G. M. DOOLITTLE.

Yes, if proper care is given them.— A. B. MASON.

I think there will be little if any difference.—M. MAHIN.

I have had no experience, but I think that they will.—MRS. L. HARRISON.

I do not know, as I have never used a Heddon hive, but I do not think there would be much difference.—C. H. DIBBERN.

If you give them sectional brood-chambers as they require, I have no doubt that they will.—P. L. VIALLON.

I do not know. I have never used the Heddon hive; only by experiments can the matter be proved.—J. E. POND.

As this is a hot question, we would say, try it with 2 or 3 colonies. We have tried it, and do not want any sectional hives.—DADANT & SON.

They will build up as strong, but not so soon. However, if the hives are packed in chaff, the difference is not great.—G. L. TINKER.

I have had no experience with the Heddon reversible hive; but as I understand the question, they will not.— H. D. CUTTING.

I object to all cross sticks, or objects of like nature in frames. I prefer a regular Langstroth frame.—J. P. H. BROWN.

Yes, sir. The past season I had one colony in the new Heddon hive that produced of comb honey five times the average of my apiary, and about twice as much as the best of my colonies on Simplicity frames, and it was because of their numbers that they did it.—R. L. TAYLOR.

That would depend upon the management. If 10 frames were left in the Simplicity, or an equal space in any other hive in the spring, they ought to build up faster in the Heddon sectional brood-chamber if only one were used at first, because that is contraction. Contraction can be practiced with any hive. Therefore answering the query in one word, *yes*.—EUGENE SECOR.

Yes, faster. I am now answering from four years' experience. With the new hive, with the divisible brood-chamber, in two sections, bees breed up stronger and earlier, and finally produce more in the same capacity, than can be obtained in any other style of brood-chamber, provided the same is properly manipulated. No style of brood-chamber is its superior, if the divisible brood-chamber is not manipulated at all.—JAMES HEDDON.

I have used the half-depth-frame cases for over eight years, and I have used them for all purposes. When used for brood-rearing in this climate where the springs are early and changeable, the colonies in them do not breed up rapidly like they do when in the standard Langstroth hives. But when the weather becomes warm, there is little difference to be seen in the amount of brood reared. The shallow sectional-frame cases are at their *best* when used for the purposes for which they were first devised, viz: to take honey on the tiering-up plan.— G. W. DEMAREE.

With judicious management, we do not think that there will be much difference.—THE EDITOR.

CORRESPONDENCE.

BROOD-FRAMES.

Deep Frames vs. Shallow Ones, and Sectional Hives.

Written for the American Bee Journal

BY W. J. CULLINAN.

This afternoon, as I was enjoying the New-Year holiday (by "minding the baby" while my wife went shopping), I thought that I could not better improve the spare time than by writing to my favorite bee-paper; and suiting the action to the thought, I will begin.

About ten weeks ago I tore myself from the town of my birth and the scenes of my youth, and hied me to this great "Chicago of the southwest," better known as Kansas City.

I left home with the intention of going to California, and may still reach that "land of sun and flowers," if the accounts I get of fleas, poison-oaks and hostile reptiles of the sea do not cause my courage to fail me. Let this suffice as a preface, for I started out to answer an article on page 804 of the AMERICAN BEE JOURNAL for 1887, wherein Mr. J. M. Hambaugh enters "a plea for large frames."

It is well enough to analyze and discuss every phase of apiculture, and when we have stumbled upon anything (be it new or old) that will facilitate the labors, or add to the profits of bee-keeping, lay it before the great brotherhood and sisterhood, who in the pursuit of this noble calling are yearly adding to our national wealth, and contributing to the comfort, health, happiness and luxury of their fellowmen. Mr. Hambaugh does not claim that he has anything new to offer in the shape of a hive, but is simply commending that which is old, or giving his preference, as it were.

Mr. H. says, that in transferring bees "from nail-kegs, log-hives, bee-trees, etc., he has found the same principle to govern all, *i. e.*, large, deep, roomy combs, with stores above, brood beneath, and combs spaced from 1½ to 2 inches from centre to centre." I would ask, did he not find those combs of all shapes and sizes, made, and shaped more with a view to filling the repository in which they were built, than to honor any whim or requirement of the queen-mother? For it is well known that bees in their wild or natural state inhabit caves, built under ledges of rocks, in the sides of houses, in chimney-flues, and in all manner of places, and as they show an utter abhorrence to a vacuum (when they have honey to fill it), they always fill the particular space, be it round, square or oblong, thus forcing the queen to deviate from her characteristic circular movements, suiting them to her particular surroundings. I have frequently seen Langstroth frames filled completely full of brood; and again, I have seen a patch of eggs in one corner of a frame, while the other three were empty—showing that the queen does not always move in a circuit, but readily adapts herself to her surroundings.

The Quinby frame, which is the frame Mr. H. alludes to, is too large and unwieldly for extracting, as well as slower of manipulation at all times. I think that Mr. H. forgets himself when he says, "We should imitate nature in the construction of our hives." Does he go to an old hollow-tree or cave for measurements when he wishes to begin the construction of his Simpicity or Quinby hives? No; he will consult his table of measurements on paper, which, by the way, contain not one single feature of the hollow-tree intact. He and others have changed, altered and improved upon the pioneer homes of the honey-bee to such an extent that the one resembles the other only in the form and construction of

the cells; and had we the power, we would doubtless have changed these.

As to the queen losing time in "passing over bars and bee-spaces," etc., I think amounts to nothing; for any one who knows anything about the inside workings of the bee-hive, knows that when the queen begins her work of reproduction, her starting-point is the centre of one of the central combs—be they large or small; here she deposits in the neighborhood of a dozen eggs, then passing to the other side of the comb, she deposits a like number; then passing back she enlarges upon the first, and so on until she has a patch of eggs as large as a man's hand, when she begins depositing in the adjoining frames successively, then back to the centre, and so on, taking in more territory at the side as she enlarges her circle in the centre, thus keeping her bunch of brood nearly in the form of a globe—this, of course, being done to accord with a natural instinct or trait of the bees to cluster in a ball, so that in the event of cool weather the brood is all well protected and kept from chilling.

Now it is but reasonable to suppose that if we have large, deep frames, as Mr. H. suggests, the queen will lose a great deal more time in passing from side to side, and from frame to frame, than if the frames are shallow, or have horizontal bee-spaces in the centre. And by this line of reasoning I contend that horizontal bars and bee-spaces, instead of being detrimental and forming an obstruction to the movements of the queen, facilitate the same and become a help. If I were to tolerate large, deep frames, such as the Quinby, at all, it would be in the brood-chamber only, with a shallow-frame above for extracting, *al a* Dadant, or a single-tier crate for comb honey. But this I do not consider feasible in the production of extracted honey, for the combs are not interchangeable, which I believe to be an important aid in forcing the bees upward in the fore-part of the season.

Then again, in the production of comb honey I believe the contraction of the brood-nest to be essential to the best success. I consider it a great advantage to have the brood distributed over the whole under-surface of the surplus cases—a condition which can only be secured by dividing the brood-chamber horizontally, by the use of the shallow brood-frame.

Mr. H. is running his apiaries nearly altogether for extracted honey, and for this purpose his large and deep brood-chamber hives may answer very well; but should he turn his attention to the production of comb honey, he would soon adopt a frame much shallower than the Quinby, if not a horizontally-divisible brood-chamber.

However, I should be pleased to hear from such as have used the sectional brood-chamber hive in the production of either comb or extracted honey, and with what success. Mr. Heddon might favor us with an account of his successes with the sectional brood-chamber hive; for if they *do* possess advantages over other hives, I am sure that all, like Mr. H., would like to know it.

Kansas City, Mo.

FUMIGATION.

Report for 1887, Fumigating Combs and Poisoning Bees.

Written for the American Bee Journal
BY P. LATTNER.

The last was the poorest honey season that I have experienced in 28 years. I lost 50 per cent. of my bees last winter, by their having honey-dew, or bug-juice, for winter stores; all that had none, or did not live on that stuff, wintered well.

I commenced the season with 49 colonies, spring count. Four swarms issued, but one of them left after being hived. I increased my apiary to 80 colonies, by the nucleus method, and took 1,200 pounds of extracted honey. This was the result of having plenty of combs.

We had good fall pasturage, and all the bees were put into winter quarters in good condition. One-half of them are on the summer stands in chaff hives, and the other half are in a bee-cellar under the bee-house. The cellar is 16x22 feet, and 6½ feet high, with the ceiling lathed and plastered, the floor cemented, ventilation from the floor into the chimney, opposite the entrance, and a stove to regulate the temperature completes the cellar.

Fumigating Empty Combs and Honey.

I use the stove in summer to fumigate empty and full surplus combs. It is placed in the bee-house, in one corner, which is partitioned off and arranged right above the stove for that purpose. One-half pound of pulverized brimstone, saturated with alcohol, is placed in an iron kettle inside of the stove, with the stove-pipe directed toward the combs; then a lighted match is dropped into the kettle, and the work is done.

About Poisoning the Bees.

I was glad that the editor reprimanded the correspondent of the *Messenger*, at Atlantic, Iowa, in the BEE JOURNAL of Dec. 21, 1887; but I am sorry that the good State of Iowa has among her people such a villain. I think that the public would be more benefited by feeding such an ignorant, dastardly adviser on the same stuff that he recommends for the destruction of the honey-bee. That article contains ignorance, falsehood and malice combined.

Worthington, Iowa, Dec. 24, 1887.

BEES AND FRUIT.

The Mistaken Idea that Bees Injure Fruit.

Written for the American Bee Journal
BY ALLEN BARTOW.

I have just read, on page 803 of the BEE JOURNAL for 1887, an article in regard to poisoning bees, being a few quotations from a paper called the *Messenger*, which asserts that there has been great destruction of grapes here by bees. Now that is not the fact. That bees do not injure sound grapes, or fruit of any kind, is admitted by all intelligent fruit-growers and bee-keepers. But some years ago it was thought that bees did injure fruit, but thanks to Prof. Cook for dispelling that mistaken idea from the minds of both parties on that question. It came about in this wise:

We had an agricultural meeting at Sandusky, O., and Prof. Cook attended and lectured on entomology, and the anatomy of the bee was part of his subject. At the close of his lecture the Professor was subpœnaed, and gave evidence in a case then being tried in the County Court at Sandusky, and the writer heard him being catechised for about two hours by four lawyers. He made it plain that bees could not puncture sound fruit—so plain that the suits were withdrawn. The facts were as follows:

The bees were poisoned by one party, in the vineyard, and the party owning the bees traced the poison, by following the bees from the hives to the vineyard, when he found great numbers on the route, dead and falling all the way from the hive entrances to the poison in the vineyard. The owner of the bees sued the grape-grower, and the latter brought counter suit for damages done to grapes.

Now the point I wish to make is this: It caused both bee-keepers and fruit-men to investigate, and they found that the facts exonerated the bees from blame. We found other causes that opened the fruit. First, grapes when over-ripe will crack open; again, birds and other insects destroy them. We have a small bird about the size of a brown ground-bird, that gets on a bunch of grapes, and pecks them open as fast as one could count.

This bird did not seem to eat the grapes, but simply tore the skins open. I then shot the birds, and as some grapes were fully ripe, I gathered those remaining sound grapes and left those that were opened, on the vines. The bees of course sucked these dry. But the strange part is, the same birds (the live ones of the same kind), came and ate the seeds of the dry grapes that remained on the vines.

I venture to say, that whoever will spend the same time in investigation, that he does in blaming, will be satisfied that the bees are innocent of opening fruit.

Milan, ♁ O.

BEE-CELLAR.

How to Build a Good Cellar for Bees or Kitchen Use.

Written for the Western Plowman
BY C. H. DIBBERN.

Not only is a cellar a good thing for the bee-keeper and farmer, but with many an absolute necessity. Now by a cellar I do not mean a hole in the ground under the house, filled with decaying vegetables. I maintain that the cellar should be the "best room in the house," as well as the most useful. To build a cellar right requires a good deal of care and expense. The bottom should be cemented with a hard cement that will not sweep off and crumble away. The walls should be back-lathed, and plastered with cement. If it is plastered directly on the wall it is apt to "sweat" in the spring and become moldy. The ceiling should also be plastered with cement at least an inch thick. Windows should be made on opposite sides so as to allow a free circulation of air. If bees are to be wintered there, it should be divided by a partition into two parts, so as to keep them entirely apart from the vegetables. There should be at least two general clearing outs of the cellar, in the spring and fall, when the walls, floor and all should be thoroughly whitewashed. The boxes, barrels, etc., that have been in the cellar, should be exposed for a few days to the sun and air at such times. Now if ordinary care is used in the meantime to keep everything clean and sweet, and ventilated as much as possible, my word for it, such a cellar is a blessing.

Snow Around the Hives.

"In wintering out-of-doors is it necessary to sweep the snow from the top and front of the hive?" No. It is often an advantage to leave it on, and even in front of the entrance to keep the bees from flying and getting lost in a light snow. Should the snow, however, become deep, I think it advisable to shovel the snow from the front and open the entrance.

Milan, ♁ Ills.

ALSIKE CLOVER.

How to Induce Neighboring Farmers to Plant it.

Written for the American Bee Journal
BY M. M. BALDRIDGE.

Joshua Bull, one of the delegates to the last Inter-National meeting of bee-keepers in Chicago, informs me that he succeeded very nicely last spring in securing the distribution of about 15 bushels of Alsike clover seed, among his neighbors; by simply leaving with a local dealer a small package of

Alsike Clover Root and Crown, average size, a year old. *Red Clover Root and Crown, average size, a year old.*

Alsike Clover Leaflets, obtained through the office of the AMERICAN BEE JOURNAL, with instructions to place them in the hands of parties who came to him after grass-seed. He thought it better to do thus than to distribute the Leaflets himself, lest his being interested in honey-production might create the impression that he was personally interested in the sale of the seed, or otherwise; that is, speaking "one word for his neighbor and two for himself!"

As non-producers of honey are often both jealous and suspicious of the bee-keeping fraternity, the plan pursued by Mr. Bull may be just the one for others to adopt, and so I thought it best, thus early, to call *special* attention to it. But I will now suggest another plan which I know will also be a success, and will, as must be obvious, have its advantages:

Besides supplying all local dealers in grass-seeds with the Leaflets, just drop one in the Post-office, in a *sealed* envelope, to each and every farmer living within a radius of three miles of your apiary, and do this the present winter, and before the general time for sowing grass-seeds, *and in the quietest manner possible!* This plan will give the farmers, who really should be the parties most interested, ample opportunity to study the subject, through inquiries and otherwise; and then, when they have occasion to visit the grass-seed dealers, they will be better prepared to decide what they should and ought to do.

If we can induce the farmers to grow Alsike, mixed with other grasses, we will then solve the problem of good bee-pasturage, and an abundance of it; and, besides, we will be doing to the farmers, as well as ourselves, an immense amount of good. For my part I would rather have *one* acre of Alsike clover, mixed with timothy and red clover, and within bee-flight of my apiary, than the best *ten* acres of the common white I ever saw; and so will others when they give the mixing plan I advise a fair and extensive trial. Alsike will, when mixed as stated, never disappoint the farmer, nor the apiarist, in case its partnership neighbors make a satisfactory growth; for it is a fact, though not generally known, that Alsike will do well wherever and whenever the common red can be grown with success. Try it, ye doubting Thomases, and then report.

St. Charles, ♁ Ills.

BEES IN COLORADO.

Experience in Bee-Keeping in Colorado—Alfalfa, etc.

Written for the American Bee Journal
BY DANIEL WESTOVER.

I have read Mary A. Goodale's communication on page 792 of the BEE JOURNAL for 1887, and in reply to her questions I will give my experience of three years.

I started with 3 colonies, and have sold $100 worth of bees, and over 1,000 pounds of comb honey the past fall. I sold some bees the past season at $8 per colony. I have wintered my bees on the summer stands for three winters without any loss; and I now have packed in chaff 45 colonies in good condition. They had a splendid flight to-day. Here they have two or three cleansing flights during the win-

ter months, and they are not troubled by moths or diarrhea.

Alfalfa is being raised here in abundance, and is considered splendid bee-food. There are but few bees in the southern portion of the State as yet, but I am sure that they would do well there. I am located on the Platte river, 47 miles from Denver, and four miles from Greeley. I have never sold first-class comb honey for less than 20 cents per pound.

It would not pay to ship bees from Indiana to Colorado. The Italians take the lead here, as compared with any other race of bees. I kept bees in Indiana 30 years ago, when we sawed off hollow-logs, bored holes and drove cross-pins in them, and stood them up on a puncheon. They then were considered second to none, as were also the black bees that we handled without a smoker or veil.

Evans, ♂ Colo.

CAVE-WINTERING.

The Drouth Causes Poor Results —A Cave for Bees in Winter.

Written for the American Bee Journal
BY P. L. GIBSON.

My bee and honey report for 1887 is as follows: I put 40 colonies in the cellar on Dec. 8, 1886, and took them out on March 8, 1887, all being in fine condition. They stored a little honey in June, from white clover, but consumed it all and the greater part of their stores by July 15.

As we had no rain in June and July, the result was that from 40 colonies I received no surplus honey, no swarms, and lost by starvation 10 of my old colonies, and 5 more will have to be fed in order to survive the winter. I am not discouraged, however, for I have the beggar's consolation, namely, "There are many more in the same fix;" but I still hope for better returns the coming summer.

Wintering Bees in Caves.

I am a strong advocate of cellar-wintering of bees, and I would winter them in this way if I had to make a new cellar or cave every year. My present depository is a cave, dug 4 feet deep, with posts set around the sides 7 feet above the bottom of the cave. This is sided and covered with puncheons split from green oak timber. A passage-way 3 feet wide and 4 feet long is lined and covered with the same material. This passage-way admits of two doors, one on the inside, and one on the outside of the cave when needed. The total cost of the whole was 3 days' work.

I remove the caps, sections, and honey-boards from the hives, and place any kind of a cloth over the brood-chamber, and then tier them up, with one-inch strips between them. In this way I never lose any bees, by keeping the cave dry, and at a temperature of 42°. I find the BEE JOURNAL a great help, and a welcome visitor. Every one having a colony of bees, or expecting to get a colony, should read it.

Illinois City, ☩ Ills., Dec. 30, 1887.

DISCUSSION.

Some Questions which all are Invited to Answer.

Written for the American Bee Journal
BY C. P. HEWETT.

1. How many keep a daily record of the temperature and degrees which they prefer in their depositories?
2. How many believe in hibernation?
3. How many can winter colonies on from 3 to 6 pounds of stores?
4. How many have had bees steal eggs, and from them make queens?
5. How many have had queens fertilized that did not leave the hive?
6. How many have had queens become re-fertilized?
7. How many have had queens die with the drones, on their bridal trip?
8. How many have had bees hibernate, and remain so until taken out in the spring?
9. How many can tell that they have a queenless colony in their apiaries, by seeing bees trying to steal eggs, before they notice the colony which is queenless?
10. How many know that there is no vitalization in some queens' eggs, when they first commence laying in the spring, and the bees have no regard for her, more than any other bee, and swarm out?

The above questions are open to all.

Kingston, ⊙ Wis.

STARTERS.

How I Fasten Foundation in Grooved Sections.

Written for the American Bee Journal
BY HENRY W. HAAG.

It seems from Mr. Fox's remarks on page 823 of the BEE JOURNAL for 1887, that his is the only satisfactory method for fastening foundation in sections. I have tried several methods, and I find none that suits me but the following:

I use only grooved sections, and cut the starters ⅛-inch shorter than the section is wide, and about 1½ inches deep. Then I put the section on a table, with the grooved side down, take a starter in my left hand, insert it in the groove, and then run melted beeswax along the side of the starter, which holds it securely; no matter how many bees get on the foundation, it will not drop off.

I formerly used Mr. Fox's method, but I did not like it, as so many starters dropped off; and then they would ruin some honey by causing the bees to build the combs crooked.

I would not have sections without grooves for foundation, for in any other it cannot be securely fastened. Not one starter in five hundred will drop off if the above plan is used, and the sections are grooved.

Pettit, ☩ Ind.

WINTERING.

Results of the Season, and How I Winter my Bees.

Written for the American Bee Journal
BY E. HENKLE.

I started last May with 44 colonies of bees, two-thirds of them being in splendid condition. I lost 4 colonies during the summer, by moths getting the advantage of them before I discovered it. I had one swarm, which leaves me with 41 at present, and not a pound of surplus honey.

On Sept. 1, I found one-third of them nearly starving. I bought $20 worth of sugar, and fed it to them, which fixed them up nicely for winter. They are all well packed on the summer stands, with cushions of chaff and forest-leaves on top and around them. I use the Mitchell hive, in which the frames hang crosswise, with two division-boards, one at each end. I place the bees in the centre on eight frames in winter, and put one cushion at each end and one on top. I have always wintered my bees very successfully in that way. I never allow snow or sleet to fall on the hives. I have three sheds that are 50 feet long and 6 feet wide, boarded up on the back to keep off the cold winds.

I do not think that I am in a very good part of the State for bee-keeping. I have never been able to get more than from 25 to 40 pounds of honey per colony. We have to depend entirely upon white clover for surplus. There is no basswood within five miles of this place. I have about half an acre of sweet clover; but what is half an acre of sweet clover for 40 colonies of bees? But I have been sowing considerable more this fall, and will sow more next fall, so as to let it take the place of basswood.

Washington C. H., ♀ O., Dec. 23, 1887

BEES AND GRAPES.

Another Proof that Bees do not Puncture Grapes.

Written for the American Bee Journal
BY H. W. LACY.

On page 805 of the BEE JOURNAL for 1887, I saw a statement supposed to be made by Secretary Garfield, wherein he states that the Secretary of the Eaton County Horticultural Society said that there is no use talking, bees do open grapes, and that he has seen them where there was no crack or anything of the kind. I, for one, flatly and positively contradict that statement. I am willing to bet five of the best queens in my apiary, that no Italian bee ever punctured a sound grape-skin. I tried it the last season in different ways, for my own benefit, as I have heard it discussed by different ones, and as some of my neighbors thought that their crop of grapes would be small on account of my bees.

As I have quite a large vineyard of my own, with some twelve different kinds of grapes, I placed 6 colonies amongst them in such a way that the bees were all amongst the grapes; in fact it was hard work to open the hives, as the fruit hung so clustered about them, and right before the entrances of three of the hives. I had large clusters of grapes hang in such a way that the bees had to work around them to get in and out of the hives. I do not think that there was one grape injured by a bee. Then on the nearest bunches I caused a small scratch to be made with a pin, just through the skin on a few of the grapes, and they were immediately sucked out by the bees. Therefore, I say that a bee will not injure grapes unless the skin is first cracked in some other way.

Results of the Past Season.

The past season was the poorest that I ever experienced in bee-keeping; yet I think that my bees did as well as any in this State. I commenced the season with 27 colonies, spring count, in a fair condition. I sold 12 colonies, and had one colony stolen. I bought 14, had 9 swarms, and then doubled-up my number of colonies to 30, which I put into winter quarters. I had 103 pounds of comb honey, and 227 pounds of extracted.

To those colonies which I thought had not enough for winter stores, I fed some granulated sugar, and so far they seem to be doing well. Up to Dec. 20 there had not been more that five days that they were not on the wing. I winter my bees packed on the summer stands in chaff hives.

Mansfield, Mass., Dec. 30, 1887.

WATER.

The Bees Need Water for Winter Use.

Written for the American Bee Journal
BY T. S. BULL.

Having a colony of bees in my cellar that showed signs of uneasiness and wanting to fly out whenever the door was opened, and Dec. 18, 1887, being a warm day, I decided to carry them out and put them on the summer stand. By the time I had them on the stand, there was a good many bees on the alighting-board. They had not been on the ground (I had placed them on the ground) a minute, before they were crawling out on the ground and sipping water. They did not all fly. They crawled until they came to water.

I wet a cloth and laid it on the alighting-board, and it was soon covered with bees. There was no sign of any disease whatever. There was no brood in the hive. They were as healthy as bees in June. Now that was conclusive evidence, to my mind at least, that that colony wanted water at that time. I came to the same conclusion a number of years ago. I have given the bees water in the cellar a number of times, in years past, in order to keep them quiet. The front end of the hives have been covered with bees in the cellar sipping water. I never saw any bad effect from it.

I never give the bees any water in the cellar before February or March. I put them into the cellar on Nov. 10 to Nov. 14. The mercury is from 50° to 52°. My cellar is very dry. The next day I removed them in the cellar, but before putting them back, I poured about a gill of water in a division-board feeder that was next to the cluster, on Jan. 2, 1888. I examined them to-day, and the feeder was dry. I never saw bees more quiet than they are. I also gave them some more water.

Valparaiso, Ind., Jan. 7, 1888.

BEES AND BIRDS.

Shoot the Birds, and the Bees will not be Blamed.

Written for the American Bee Journal
BY O. B. BARROWS.

I live within four blocks of the business centre of a town containing about 9,000 people, and I have five rows of Concord grape-vines, each row being about 70 feet long, and about 6 feet apart. Between these rows of grape-vines I keep from 50 to 100 colonies of bees—usually about 80 colonies—which makes them quite crowded, and in many cases the vines hang down on the hives. These vines bear grapes which ripen, and some of them frequently hang on until they are spoiled by freezing, and yet I very seldom see bees on the grapes; while at the outskirts of the town they complain of their grape crop being almost entirely destroyed by bees.

One of these grape-growers complained to a friend of mine, about it, and for a joke he told the man that they were Barrows' bees, and that he had them trained so that they would not touch a grape at home. I confess that I was puzzled about it, but upon appealing to another friend who raises grapes, but not bees, he said that where I lived a certain kind of bird did not frequent, that did frequent the other place, and that when the bees commenced on his grapes, he shot three or four of the birds, and the bees immediately stopped eating the grapes.

Marshalltown, Iowa.

[The bees are blamed wrongfully as well as persistently by those who will not think and experiment, and thereby be convinced. Birds, wasps and insects do the damage in every instance, and yet the poor bees are almost universally blamed for all the depredations. Why not be fair and reasonable, and do justice to the bees?—ED.]

FOUL BROOD.

Keeping Bees in Texas, and Treating Foul Brood.

Written for the American Bee Journal
BY C. M. DAVIS.

I take great pleasure in reading the BEE JOURNAL. Bees have done fairly well in northern Texas the past season. I have been keeping a few colonies in this thriving city for three years, and the past season was the first that I have received a profit from them. I made about enough to pay for all previous expenses, and I think that if my bees had not been troubled with foul brood, I might have had much better results.

In the spring of 1886 I found that all of my bees had the foul brood. I tried phenol, but failed to cure it; after which I cleansed the hives, etc., and transferred all, which seemed to get rid of the disease, and they seemed to be all healthy last spring. But to my surprise, the last of July I found every colony affected, and very weak in bees. Some swarmed out, and what was left I have doubled up to 6 colonies. In August I had 18 colonies. I think that they got it from some neighbor's bees,

as I learn that they have foul-broody bees. I would like to ask the following questions:

1. How would it do to cleanse the hives by scalding them, and then get some fresh combs that are known to be free from foul brood taint; then transfer the bees during the first flight in the spring, or before they commence to breed, and move them away from the district where the foul brood is? When in August I found that they were foul broody, I got some phenol and thoroughly sprayed both combs and bees, so that there was not an empty cell; but the liquid entered without effecting any cure or benefit.

2. Are the bees and ground impregnated with the germs that produces dead brood, where the stands were? I think that I have seen some such ideas presented in the BEE JOURNAL; if so, it would be very expedient to move the bees to some other location. I would increase my apiary to 30 colonies, if I thought I could get rid of the foul brood.

Denison, ♂ Tex., Dec. 21, 1887.

[1. If the foul brood is fully developed, and of the disastrous kind, we think the only "cure" we would try, would be to burn up hives, bees, fixtures, etc. We have but little confidence in any of the so-called "cures."

2. Yes; the trees, boards surrounding the apiary, and everything contiguous are liable to be harboring the germs of the disease, which are liable to develop at any time.—ED.]

ANATOMY.

Rudimentary Glands in Bees, and the Evolution Theory.

Written for the American Bee Journal

BY M. B. CHADDOCK.

I notice on page 809 of the BEE JOURNAL for 1887, that in Prof. A. J. Cook's lecture on the anatomy of the honey-bee, he described the glandular system in particular, and said: "One pair of glands furnishes the saliva; another the food for the larvæ. Drones do not have this gland, and it is only rudimentary in the queen, which shows that she once nursed the larvæ as the queen bumble-bee now does in the spring. The change that has taken place in the honey-bee in this respect, is another proof of the correctness of the evolution theory."

Now I want to ask a few questions about those rudimentary glands. A queen is hatched from a worker egg, and that worker egg, if let alone, would hatch out a worker bee. That worker egg is bound to contain *all the parts* that go to make a perfect worker-bee, does it not? If it does contain all the parts, then it must contain the same thing that will develop into a food-gland in the worker-bee. But when by means of richer food, the worker egg is changed into a queen, the rudimentary food gland must remain there. There is no evolution about it; it is in the egg, and must be in the queen, how can it help itself?

Of course drones not being hatched from worker eggs, would not have "the rudimentary food glands;" and as to its being deficient in old worker bees, any gland that is not used becomes deficient.

Do rudimentary glands prove that animals possessing them ever used them for the same purpose that the glands proper are used for now? Do the rudimentary mammary glands in the male hog, prove that once upon a time the male hog suckled the litter of pigs? And do the rudimentary mammary glands in man, prove that our baboon ancestors drew nourishment from the male and female parent, just as it happened, without any distinction of sex?

Vermont, ☜ Ills.

[Will Prof. Cook kindly reply to these queries?—ED.]

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Jan. 20.	Haldimand, at Cayuga, Ontario. E. C. Campbell, Sec., Cayuga, Ont.
Jan. 24-26.	Eastern New York, at Albany, N.Y. John Aspinwall, Sec., Barrytown, N. Y.
Jan. 25, 26.	N. E. Ohio, Northern Pa. and W. New York, at Meadville, Pa. C. H. Coon, Sec., New Lyme, O.
Feb. 4.	Stark County, at Canton, Ohio. Mark Thomson, Sec., Canton, O.
Feb. 15, 16.	E. Iowa & W. Ills., at Davenport, Iowa. H. S. Dibbern, Sec., Milan, Ills.
Apr. 24.	Des Moines County, at Burlington, Iowa. John Nau, Sec., Middletown, Iowa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Piling in the Pollen.—J. W. Winder, Carrollton, ☜ La., on Jan. 8, 1888, writes:

Bees are piling in pollen now; one colony to-day averaging 20 bees per minute, all heavily laden. Grasshoppers and butterflies are sporting in the sunshine, and the little pestiferous mosquito does not yet neglect his dainty bite, by day or night.

Bees Resting Quietly.—G. M. Whitford. Arlington, ☜ Nebr., on Jan. 8, 1888, says:

The weather at present is very cold, the mercury going 20° below zero last night. Bees have not had a flight since Nov. 24. Those that were put in the cellar are resting quietly.

Bees are Quiet, etc.—S. J. Church & Son, Cedar Rapids, ☜ Iowa, on Jan. 5, 1888, write:

On April 7, 1887, we took 120 colonies out of the cellar in good condition, and lost only 2 colonies by June 1; but we lost 18 colonies more, some by swarming out, 2 were queenless, some by robbing, and others by dwindling. So we had only 102 colonies left by the middle of June. The hives were full of bees and brood, but with little honey, except what we fed them, which was 500 pounds. On July 1 linden was in full bloom, and yielded well for 4 or 5 days. We had 4 natural swarms, made 4 by dividing colonies, and obtained 200 pounds of extracted honey and 100 pounds of comb honey in 1-pound sections; and left 20 to 30 pounds for each colony for winter stores. We put them into the cellar on Dec. 1. They were very quiet with the temperature at 40° to 45°.

Sweet Clover the Best, etc.—Peter Billing, Pawnee City, ☜ Nebr., on Jan, 6, 1888, says:

The bee-keeping spirit is almost down at zero in this vicinity, as the bees scarcely stored any surplus at all the past year. I had 30 colonies in the spring, prevented increase, and obtained about 300 pounds of honey, which was mostly basswood and sweet clover. I believe that sweet clover is the best honey plant for this country, as I have never noticed it to fail.

Yield from Basswood, etc.—Fayette Lee, Cokato, ⊙ Minn., on Dec. 20, 1887, writes:

I commenced the season of 1887 with 75 colonies of bees, being mostly weak colonies. I increased them to 95 colonies, and took 2,700 pounds of extracted honey, and 600 pounds of comb honey in 1-pound sections. I had to feed only 100 pounds in the fall. I never have failed to get a fair crop of honey here. In the fall I took eight empty combs without a bit of pollen in them, put them into an empty hive, and then shook a large swarm in front of the hive. They all went in, and I then fed them 15 pounds of fall honey, after heating it very hot, and then letting it cool. This will prove whether

it is pollen that causes bee-diarrhea or dampness; or whether sugar is better than honey to winter bees on. I shall not let them fly until they have been in the cellar 150 days or more. They were fed on Oct. 25, and put in the cellar on Nov. 5. There is a bee-keeper in Winona, Minn., who wants to know whether basswood yields honey well as far north as this place. Yes, it does; and I have never known it to fail. Sometimes it only lasts for ten days. I got a fine lot of golden-rod honey this fall. The best yield per day from basswood was 21 pounds per colony, gathered in 12 hours; and just at night they gained 3 pounds in one hour.

The Queen-Excluding Honey-Boards, etc.—E. H. Trumper, Hillsdale, ♀ Mich., on Jan. 7, 1888, says:

I have 74 colonies nicely packed in the cellar, where the temperature ranges from 41° to 45°, and most of the time the bees are very quiet. I started last spring with 28 colonies, increased them to 51, and took 2,000 pounds of honey, all in 1-pound sections except 150 pounds of extracted. That is the most honey that I have heard of any one getting here. I have sold about half of my honey. I bought 23 colonies of bees the past fall, and have fed about 2 barrels of sugar. I think that my bees are in good condition for winter. I use the Langstroth frame and hive, all new colonies being hived on 5 frames with starters. I use a queen-excluding honey-board, and thus I do not get any drone comb, and more of the honey is put into the sections.

Children Playing in the Apiary.—Bradford Barlow, Toledo, ♌ Ohio, on Jan. 9, 1888, writes as follows when sending his dues for the Bee-Keepers' Union:

I keep bees on a city lot with a family on each adjoining lot. One of my neighbors has a large family of children, who play hide-and-seek in the apiary, when I am handling the bees. They stand by in perfect safety. The same neighbor has grapes, but he does not think the bees are destructive to them.

My Experience with Hives.—John Boerstler, of Vashon, ♌ Wash. Ter., writes as follows:

I began bee-keeping about 20 years ago, with a colony of black bees in a box-hive. I made boxes instead of hives for a long time. I next obtained a moth-proof patent hive, and thus spent about $20 for kindling-wood, as that was all it was good for. I afterward paid $5 for the right to make, and $25 for 5 hives of another patent moth-proof style, which I called the "humbug hive." It was not much better than the first, but I made a good hive out of it by making some alterations. After experimenting with several more styles of hives, and spending about $100 more, I heard of and procured a two-story Langstroth hive, and that is, without doubt, the best hive for any bee-keeper. I want no better hive than that.

Before leaving the East, I had 85 colonies of bees, mostly Italians, and nearly all in Langstroth hives. I now am here in Washington Territory starting anew, by getting black bees in box-hives, and then transferring them into Langstroth hives.

If ever any bee-man gets up a gold medal for Father Langstroth, I will be only too glad to pay my share of its cost. It is what he ought to have had long ago, and I hope some one will soon begin to get it up.

Bees in Good Condition.—Mr. Henry Walsh, Sheboygan Falls, ♌ Wis., on Dec. 26, 1887, writes:

I have 42 colonies of bees in the cellar, that are in good condition, and which I think will winter all right. I commenced keeping bees four years ago next May, when I bought 4 colonies, which I increased to 9 colonies, and took enough honey for our own use. I did not lose any the following winter. The next year I increased them to 23 colonies, lost 2, and sold $60 worth of honey. I began last spring with 21 colonies, increased them to 42, and took about 600 pounds of comb honey. My best colony stored 72 pounds of finished honey, and 29 pounds of partly finished sections; all white clover and linden.

Bees Dying in the Cellar.—E. T. Jordan, Harmony, ♌ Ind., on Jan. 5, 1888, writes:

I placed my bees in the cellar on Nov. 24, 1887, and they seem to be wasting away very fast. I cannot account for it. The temperature of the cellar has not been below 42°, but the most of the time it was at 48°. The ventilation is good. A pipe is connected with the stove-pipe above. The bees leave the hives and die on the cellar floor. I have taken nearly half a bushel of dead bees from 72 colonies. Can any one give some idea of what the trouble is; and suggest a probable remedy? The bees that leave the hives seem to be healthy, with no signs of diarrhea.

Not much Loss in Bees.—Abe Hoke, Union City, ♌ Ind., on Jan. 5, 1888, writes:

Bees seem to be very quiet, with not much loss so far. I have one colony that has lost, up to this time, not less than a quart of bees, and it lost heavily last winter; but it came through in pretty fair condition. The winter has not been very cold, 4° below zero being the coldest so far. I am getting ready for next season, and am making some changes. The BEE JOURNAL is a welcome visitor in everything that relates to bees.

Bee-Keepers' Union—Packing Bees.—L. C. Seabright, Blaine, ♌ O., on Jan. 7, 1888, writes:

The BEE JOURNAL comes to hand this week looking fresh and bright in its "new dress." I commenced the season of 1887 with 63 colonies, and got 60 pounds of surplus honey. Bees appear to be wintering well in this locality. They have had good flights the last two days. There has been but very little cold weather, and as yet we have had only about three cold days. On the coldest day the mercury was 6° above zero.

Mr. Samuel Rau, on page 11, speaks my sentiments exactly, in regard to packing bees for winter quarters.

I do not see why it is that the Bee-Keepers' Union has not the support of every bee-keeper in the land.

[The apathy of bee-keepers relative to their defensive society—the National Bee-Keepers' Union—is astounding. They *sleep* apparently, on a volcano, which may "belch out" in fury at any moment, judging from the "rumblings" heard but recently. Already the cry of "distress" is heard, but *where are the responsive voices* of "cheer" and "substantial help" which should greet them? Reader, will you reply?—ED.]

Building Drone-Comb, etc.—John G. Pursel, Round Plains, ♌ N. Y., on Dec. 12, 1887, writes:

I commenced the season with 10 colonies, and increased them to 30 colonies by natural swarming and dividing. I have read the BEE JOURNAL this year with pleasure. I think that it is a very valuable paper, and the price is nothing compared with the information which it contains. I hived my second swarms on foundation, using starters in the shape of a **V**, which partly filled the frame. The bees, after drawing them out, began to

build drone-comb all around them. 1. Why did these second swarms, having young queens, build drone-comb as soon as they had drawn out the foundation? 2. To secure brood-comb, must I cut the drone-comb out? 3. If so, when is the proper time to do it?

[1. Presumedly because their queen had failed to become fertilized.

2. I do not see how you can secure worker-comb where the drone-comb is, unless you cut the latter out.

3. The best time to have bees build worker-comb is after all the swarming-fever is over, or when they have a young queen, or both; and of course when everything is favorable for the comb-building.—JAMES HEDDON.]

BEE CONVENTIONS.

Wisconsin State Convention.

The bee-keepers of Wisconsin meet in their fourth annual convention, at the Capitol in Madison, Feb. 8, 1888.

In consequence of the State Agricultural Convention being held in the same week, with its usually interesting essays, speeches, papers and discussions, the bee-convention will probably last but one day. Reduced rates can be secured on all railroads, thereby making the expense much less, and giving those who wish to do so, a chance to attend both conventions.

The following is the programme for the convention:

President's Address, C. A. Hatch, Ithaca
Notes from American Bee-Keepers' Convention, Frank Wilcox, Mauston.
Relation of Producer to the Commission Merchant, A. V. Bishop, Commission Merchant, Milwaukee.
The Heddon Hive and How to Use it, W. H. Putnam, River Falls.
How to Build a Bee-Cellar, D. D. Daniher, Madison.
How to Get the Best Extracted Honey, E. France, Platteville.
Comb or Extracted Honey; Which? F. Minnick, North Freedom.
C. A. Hatch, President, Ithaca, Wis.
Frank Wilcox, Secretary, Mauston, Wis.

Vermont State Convention.

The 14th annual convention of the Vermont Bee-Keepers' Association will be held at the Van Ness House at Burlington, Vt., on Wednesday and Thursday, Jan. 18 and 19, 1888. The order of exercises is as follows:

WEDNESDAY EVENING, 1:30 P. M.—Convention called to order by the President. Reading of the minutes of the last meeting. Reading of the Constitution, etc.

At 2:15.—A paper by W. H. Wheatley, St. Johnsbury, on "Vermont Bees." Followed by discussion of the subject by the convention.

At 2:45—"Experience of Fifteen Years in Bee-Keeping," by H.B. Isham, New Haven.

At 3:00—Discussion: "Is it advisable to insert empty combs in the centre of brood-nests for the purpose of spreading brood in the spring?" Opened by F. M. Wright.

At 3:30—Discussion: "What is the best method to prevent an increase in colonies?" Led by J. E. Crane.

WEDNESDAY EVENING, 6:45—Appointment of committees.

At 7:00—Discussion: "Bee-keeping in Vermont; does it pay?" "Its hindrances," N. G. Webster, Bakersfield. "Its Expenses," J. H. Larabee, Larabee's Point. "Its profits," Geo. Beecher, Essex. "As a business," H. L. Leonard, Brandon.

At 1:15—Essay: "The pleasure and difficulties of bee-keeping;" by a lady bee-keeper.

At 8:15—Essay: "Should women keep bees and join the Bee-Keepers' Association?" by a lady bee-keeper.

THURSDAY FORENOON, 9:00—Reports of the Secretary and Treasurer. Reports of committees, organization, etc.

At 10:15—Discussion: "Is it profitable to use full sheets of foundation in the brood-chamber?" Opened by F. H. McFarland, St. Albans.

At 10:45—Question Drawer. A.E.Manum, Bristol.

At 11:15—Discussion: "Marketing honey." Led by J. E. Crane.

Adjournment. R. H. HOLMES, Sec.

CONVENTION NOTICES.

☞ The Eastern New York Bee-Keepers' Association will meet on Jan. 24, 25 and 26, 1888, in Agricultural Hall, at Albany, N. Y. Every one is welcome. We are sure to have a pleasant an profitable time.
JOHN ASPINWALL, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Stark County Bee-Keepers' Society will be held in Grange Hall at Canton, O., on Feb. 4, 1888. A full attendance is desired, as business of importance will be considered.
MARK THOMSON, *Sec.*

☞ The Eastern Iowa and Western Illinois Bee-Keepers' Association will hold its sixth annual convention in Moore's Hall at Davenport, Iowa, on Feb. 15 and 16, 1888. H. S. DIBBERN, *Sec.*

☞ The Northeastern Ohio, Northern Pennsylvania and Western New York Bee-Keepers' Association will hold its ninth annual convention in the Commercial House Parlor, in Meadville, Penn., on Wednesday and Thursday, January 25 and 26, 1888. Reduced hotel rates have been secured.
C. H. COON, *Sec.*

☞ The annual convention of the Vermont State Bee-Keepers' Association will be held at the Van Ness House, in Burlington, Vt., on the Jan. 18 and 19, 1888. R. H. HOLMES, *Sec.*

☞ The annual meeting of the Northwestern Illinois and Southeastern Wisconsin Bee-Keepers' Association will be held in G. A. R. Hall, corner of State & North Main Sts., in Rockford, Ills., on Jan. 17 and 18, 1888. Dr. Miller will be present, and a good programme is in course of preparation.
D. A. FULLER, *Sec.*

Frank Leslie's Sunday Magazine for February contains an exceedingly interesting article by Lily Higgin, on "Modern English Artists," with portraits, giving just the information that all wish to have. "From the Suez Canal, Through Two Seas, to the Equator," is important, in view of the perennially interesting Eastern Question. The number closes, as usual, with a piece of sacred music.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lb. sections 18@20c.; 2-lbs., 16@18c.; dark 1-lbs. 17@18c.; 2-lbs. 15@16c. Extracted, is firm at 7@10c., depending upon the quality, and style of package. Dark, 2 or 3 cts. below above quotations. Receipts light and demand fair.
BEESWAX.—22@23c.
Dec. 20. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—Prices range from 18@20c. for the best grades, with light demand; 2-lb. sections, 15@16c. Dark is not wanted. Extracted is steady at 7@10c., according to style of package.
BEESWAX.—20@23c. R. A. BURNETT.
Dec. 7. 161 South Water St.

DETROIT.

HONEY.—Best white in 1-pound sections, 19@20c. Extracted, 11@12c. Demand brisk.
BEESWAX.—21@23c.
Dec. 15. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lbs. sections sell at 19@20 cts. Extracted, 7@8c. Demand small.
BEESWAX.—22@25c.
Dec. 15 A. C. KENDEL, 115 Ontario St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 16@19c.; the same in 2-lbs., 14@16c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c. Market dull.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Dec. 20. 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote: Choice white 1-lbs., 18@20c.; dark, 16@18c.; choice white 2-lbs., 18c.; dark, 15 to 16c. Extracted, white, in 60-lb. tin cans, 9c.; in barrels, 8c.; dark, in barrels, 5@6c. California 2-lb. white comb, 18c.; dark, 16c. Extracted, white, in 60-lb. cans, 8@9c.; amber, 8c.
BEESWAX.—No. 1, 20c.; No. 2, 16@18c.
Dec. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—Choice comb, 18@20c.; latter price for choice white clover in good condition. Strained, in barrels, 5@6c. Extra fancy, and of bright color and in No. 1 packages, ¼-cent advance on above. Extracted, in bbls., 6½@7c.; in cans, 7 to 9 cents. Short crop indicates further advance in prices.
BEESWAX.—20c. for prime.
Dec. 19. D. G. TUTT & CO., Commercial St.

CINCINNATI

HONEY.—We quote extracted at 4@9c. per lb. Choice comb, 16@20c., in the jobbing way. The demand for extracted exceeds arrivals, and for comb the demand is tame.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Dec. 12. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17@19c.; fancy 2-lbs., 15@16c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Extracted, white, 9@10c.; buckwheat, 6@7c.
Demand has slackened some, and to make sales we must shade above prices. About Jan. 15 we expect a more active demand.
Dec. 31. F. G. STROHMEYER & CO., 122 Water St.

PHILADELPHIA.

HONEY.—Fancy white 1-lbs., 18@19c.; fair 1-lbs 17c.; dark 1-lbs. are slow sale at 14@15c.; fancy 2-lbs., white, 15@16c.; buckwheat fancy 1-lbs., 13@14 cts.; common, 12c. Prices tend downward.
BEESWAX.—23@24c.
Dec. 11. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lbs., 20c.; fair, 19@20c.; 2-lbs., 18@19c.; 3-lbs., 16@18c. White extracted in kegs or half-barrels, 9½@9¾c.; in pails or cans, 9½ to 10c.; amber, in ½-barrels, 9¼@9½c.; dark in kegs and barrels, 7@7½c. Demand good, supply fair.
BEESWAX.—22@25c.
Dec. 15. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 10@13c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.
BEESWAX.—20@24c.
Jan. 7. SCHACHT & LEMCKE, 122-124 Davis St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@15c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Jan. 12. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White comb, 17@19c.; amber, 12½@15c. Light amber to white extracted, 7½@8c.; amber, dark and candied, 6¾@7¼c. Market firm and stocks light.
BEESWAX.—22@23c.
Dec. 12. O. B. SMITH & CO., 423 Front St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts.; dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is light.
BEESWAX.—21 to 22c.
Jan. 10. HAMBLIN & BEARSS, 514 Walnut St.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Jan. 25, 1888. No. 4.

EDITORIAL BUZZINGS.

Did you ever, since ever you ever were born,
Hear about little Miss May Unicorn.
Who spent all her money
For honey
(How funny!)
When she might have kept bees,
And obtained it from these,
And saved all the money
She spent for the honey
To send to the heathen way over the seas!
—*St. Nicholas Magazine.*

Prof. McLain is engaged to give a lecture on bee-keeping, at the Academy of Sciences on Adams street, in this city, on Feb. 27.

The Ohio State Convention, held last week at Columbus, O., was a decided success. Dr. Mason said that it was one of the best he ever attended. But a correspondent remarks that "the Doctor is a whole convention himself." We shall publish the proceedings as soon as received.

Bees in Manitoba.—A correspondent wants to know how bee-keeping would pay in southern Manitoba. It is too far north to expect much for bee-keeping. The winters are too long; making the "long confinement" disastrous. Perhaps some of our subscribers in that region can better answer the question.

An Honor.—Messrs. Chas. Dadant & Son, of Hamilton, Ills., write us as follows on Jan. 13, 1888:

We extend our congratulations for the new and neat appearance of the old AMERICAN BEE JOURNAL. It is a pleasure to peruse such a well-printed paper, and it does honor to its publisher. Long may it live!

The Weather in England has been quite mild. The London *Journal of Horticulture*, in its issue of Jan. 5, 1888, remarks as follows concerning it and the bees:

During the months of November and December the weather has been changeable; frost, snow, and rain alternating with extreme mildness for the season, the temperature often being above 50° Fahr. The lowest temperature during November was on the 24th, the thermometer registering 19°, and the lowest during December was 10° on the 22d in North Britain.

On the last day of November and on the first day of December the thermometer stood above 50°, and the bees were alert, many of them on the wing, and a great number gathering water, evidence that, owning to the mildness, breeding had begun earlier than is usually the case.

One colony in particular was very busy, and killed the last of its drones on Dec. 1. This colony, I believe, had a young queen, which was fertilized as late as Oct. 27, but I have not sufficient data at present to confirm this, but a few weeks will prove it, as the bees were half-bred Syrians, and the drones living were Carniolan. In addition to the above, either two or three had preserved their drones until the two days mentioned.

The Canadian Bee Journal makes the following friendly allusion to us in its last issue:

The AMERICAN BEE JOURNAL comes to us in an entirely new dress of type, which makes a decided improvement in its appearance. In its articles, the AMERICAN BEE JOURNAL keeps abreast of the times, is a credit to its publishers, and worthy of patronage. We wish it every prosperity.

Our thanks are hereby extended to friends Jones and Macpherson. We also wish prosperity to the *Canadian Bee Journal.*

Mrs. L. Harrison, of Peoria, Ills., is to give an address on "The Apiary," before the Farmers' Institute, to be held at Peoria, Ills., on Feb. 1, 1888. The meeting will be held in Rouse's Hall.

Feeding Partly-Filled Combs.—A subscriber in Ontario, Canada, asks the following question:

I have some colonies that I fear have not enough food to carry them through the winter. I also have combs partly filled; will it do to put those light colonies over the the frames that are partly filled with honey, and give them a passage way out of the bottom of the super containing the honey?

If the supers with partly-filled combs are placed over the bees, they may go up and get the honey, but will not be likely to go down to it. There is danger, however, of letting the heat escape by having the super over the cluster.

If the partly-filled combs are placed at the side of the cluster (in place of empty ones), and holes made through the combs, the bees may take the honey if the weather is not too severe.

The St. Paul Ice Palace and winter carnival opens Jan. 25, and continues ten days. One fare for round trip on all railroads

Bees on Shares.—F. Richards, of northern New York, asks the following questions. As others may desire the information, we give it a place here:

Which is the proper way to take bees on shares? Must the taker feed them at his expense, if necessary? Must he furnish the honey-boxes and foundation, and give the owner of the bees back his original number and half of the increase?

It is usnal for one party to furnish bees, and the other party the care and labor. The expense of new hives, surplus-boxes, comb foundation and queens is usually divided equally, and at the end of the season the honey and increase of bees are equally divided—leaving each to take all chances of marketing, as well as wintering.

Make a written contract, stating the agreement in full, and then there will be less liability of a misunderstanding.

Pleasure and Profit.—S. T. Pettit, of Belmont, Ont., wrote as follows on Jan. 18, 1888, concerning our paper:

I am more than ever pleased with the good old AMERICAN BEE JOURNAL. Your staff of writers in the question drawer department are all so well qualified to give simple, plain, intelligent answers, that it is at once a pleasure and a profit to study these answers.

Postponed for One Year—that is what was decided to do, as will be seen by the following letter:

Please state in the next issue of the BEE JOURNAL, that the meeting of the "Eastern Iowa and Western Illinois Bee-Keepers' Association" has been postponed for one year, or until "called;" it being thought best to do so upon consultation of officers.
C. H. DIBBERN, *Sec.*

Cabbage and Celery Plants.—A guide to their successful propagation. A new manual of instruction by Isaac F. Tillinghast. Seed and plant grower, and editor of *Seed Time and Harvest*, LaPlume, Pa., 32 pages. Illustrated. Price 25 cents.

☞ We will send the above and the BEE JOURNAL for one year, for $1.15.

A Favorable Word from any of our readers, who speak from experience, has more weight with friends than anything we might say. Every one of our readers can lend us a helping hand, in this way, without much trouble, and at the same time help to scatter apicultural knowledge and promote the welfare of our pursuit.

New Catalogues for 1888 are on our desk, from the following persons:

G. D. Black, Brandon, Iowa—8 pages—Bees, Queens, Honey, etc.

Iowa Seed Co., Des Moines, Iowa—48 pages—Vegetable and Garden Seeds.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

GLEANINGS OF NEWS.

A "CORNER" IN HONEY.

Mr. Albert H. Lind, of Fond du Lac Co., Wis., has sent us the following item taken from the New York *World* of Dec. 21, 1887:

KANSAS CITY, Mo., Dec. 19.—A "corner" on honey exists in this section; one firm here holding nearly all of the product that there is in town. The crop was a light one all over the country. In this State the product was not large enough to feed the bees for the winter, and honey had to be bought for that purpose.

The California crop was a small one, and the product of the hives in Illinois and Indiana was light. New York failed to secure the usual supply, which is very large, the New York crop being barely large enough to supply the home demand.

That is not much of a "corner!" We might say the same of Chicago; nearly all the honey now for sale being held by about two "firms!" And yet all buyers can be accommodated.

The following sensational item we take from the Chicago *Times* of Jan. 15, 1888. It is headed, "Now it is a Honey Trust—The Latest Combination Proposed to Boost up Prices:

The convention of honey-producers in the State of New York will begin at Utica Tuesday next. Three days will be occupied in the deliberations. J. L. Scofield will preside. The producers of over 5,000,000 pounds of comb honey and 1,000,000 pounds of extracted honey as an annual crop will be present.

Among other subjects to be discussed will be the shape, size, and style of the packages for the coming year, the price to be charged to the wholesale dealers, and a plan for unity of action to prevent the cheapening competition which has marked the sale of honey during the past.

It is proposed to form a trust, to be composed of all the large producers in the State, nominally to regulate the size of combs, so as to unify the marketable packages, but actually to buy up all surplus honey when there is a glut of production, so as to keep up the price and shut out competitors who might be willing to sell at a sacrifice. It is expected that this plan will meet with great opposition from the small producers.

At this writing the New York Convention has held its last session, but we are not yet advised as to the "doings" there. We hope to be able to lay it before our readers next week.

The "Honey Trust" is probably only a canard, but of that we shall hear more definitely when the proceedings are published. To control, in a healthy and honorable way, the honey market, is very desirable and praise-worthy.

The Echo, a nice dollar weekly newspaper of Detroit, Mich., makes mention of us in the following language:

The AMERICAN BEE JOURNAL, of Chicago, now entering upon its 24th year in a highly successful career, is the oldest paper in America devoted to the interests of its special field. It is well edited in all of its departments, is attractive in appearance, and is a reliable authority upon the topics of which it treats.

The "Wiley Lie" in England.

It is exceedingly unfortunate that in the absence of its editor, some one has endorsingly copied in an editorial in the *British Bee Journal*, the silly lies going the rounds of the newspapers, about "artificial honey" being made in New York, etc., *a la* Wiley! Did we not know that the editor, Mr. Cowan, was at his winter home in Switzerland, and that he therefore knew nothing of its publication until seeing it in the *Bee Journal*, we should feel much worse about it.

The article in question may be found on page 568 of the *British Bee Journal* for Dec. 28, 1887. It reads thus:

We have noticed the ever-increasing production of honey all over the world, but this is not the danger the apiculturist has to contend with. America and Canada may collect their tons of pure nectar, and yet there is room for more. By an increased sale of honey our British productions will come to the front; once let a man taste prime honey, and he will never go back to inferior. The danger we have to contend with is the unprincipled scientist, the man who uses his knowledge of bees for unlawful purposes; and further, the man who advances his nefarious scheme without the aid of bees at all. The history of the first of these individuals we have recently learnt from a clergyman who had been traveling in the far West, and visited many of the adulterating bee-farms. This apparent bee-keeper settles down to carry out his practices in a quiet place with a favorable climate; he has a large number of hives, but the pasturage of the district is quite immaterial to him, as his bees have to obtain their stores from large feeders placed all over the apiary. Containing what? Our informant was unable to find out, as although everything in the establishment was shown to him without reserve, yet he was not permitted to taste the contents of the vats or feeders from whence the bees were obtaining their supplies. The latter of these scientific bee-keepers is best described in the following quotation from a magazine of this month: "Artificial honey now made in New York is so much like the genuine article that only experts can detect the difference. It is in racks, the same as the natural product, and now and then the wings and legs of a few dead bees are to be seen to further the deception. It can be sold at a profit of 5*d.* per pound.

As usual in such cases, a clergyman is brought into it, so as to give some appearance of truth to the story—for he "visited many of the adulterating bee-farms," says the article.

It is a base slander—a *nefarious lie*; neither the clergyman in question, nor "any other man" ever visited any such "adulterating bee-farms!" They do not exist!!

It is nothing more nor less than a *scandalous falsehood*—the production of a sensational reporter's brain, written for *spice*, but lacking even the flimsiest "thread" of truth!

Its only possible excuse is the infamous "scientific pleasantry" written "for the *fun* of the thing," by Prof. Wiley—who is so unprincipled as to let it "fly" on electric wires to "the uttermost parts of the Earth," without a word of regret, or denial!

When cornered by the AMERICAN BEE JOURNAL he admitted that he wrote it as a scientific pleasantry, never dreaming that any one would imagine it to be a sober fact. Now the *British Bee Journal* republishes it under the heading of "Facts." It is astonishing, to say the least!

We have repeatedly offered large sums of money to persons (one of them a clergyman, too) who had repeated this story as a *fact*, to take us to the place where these "artificial combs" are made, or where the "adulterating bee-farms" may be found, but no one can take us to them! No such places can be found!

Mr. A. I. Root, editor of *Gleanings in Bee-Culture*, has for two years had a standing offer of $1,500 to any one who will point out such places to him—yet there are none who can do it. They do not exist!

Now, when honey is scarce and prices high, it is just the time for putting this "artificial comb honey" on the market at good prices, for our British cotemporary says that it is "so much like the genuine article that only experts can detect the difference." But what are *the facts?* Not even a single pound of the "artificial honey" can be produced! Not even a single "adulterating bee-farm" can be shown!!

Send your "clergyman" over here, Mr. Scribbler, to point out such farms. It will pay him to do so!

Disturbing Bees in Winter.—W. Z. Hutchinson writes as follows on the results of disturbing bees in winter, in the *Farmer's Review*. He argues quite correctly that sometimes it is necessary to disturb them sufficiently to find out if they have sufficient food; and that in such a case it is better to examine them than to let them starve:

Many bee-keepers advise us to lock the bee-cellar, and not open it again until spring, saying that the least disturbance is injurious to the bees. Others say that disturbance is no injury, that the cellar may be entered at any time with a light, the hive opened, and even combs taken out without any deleterious results following.

In all probability the cause of winter losses lies in something aside from disturbing. Improper food, or an undesirable temperature are more to be feared than disturbance; if these are right, disturbance, unless carried to an extreme, will do no harm; if wrong, disturbance may be, and probably is, an aggravation.

But, says one, why disturb them? Well, bees are sometimes short of stores, and bee-keepers might let them starve for fear of disturbing them.

Early in winter bees go into a quiet state bordering on hibernation, and this quiescent state should be as long and quiet as possible; towards spring breeding begins, and the bees are then more active, and disturbance would probably do less harm than in the earlier part of the winter.

It may be questioned if simply going into the cellar with a light and quietly lifting covers or quilts, and peeping under them at the quietly sleeping bees, can be called a disturbance, unless it be too long continued.

It is, of course, a better way to see that the bees have sufficient food in the fall, that they are placed in good warm quarters, and then let them alone, as nothing is gained by disturbing them, but when these things have been neglected, they should be attended to, even though the bees are disturbed thereby.

BIOGRAPHICAL.

FATHER L. L. LANGSTROTH, THE HUBER OF AMERICA.

But few of those who in the present day are using the movable-frame hive and practicing the modern methods and management of progressive bee-culture, realize how many sore "trials and troubles" beset the "pioneers" in developing the pursuit. That development was slow, and every "progressive step" was beset with many difficulties. The methods and management of to-day are an evolution, and to the Rev. L. L. Langstroth and his co-worker, the lamented Moses Quinby, we owe an overwhelming debt of gratitude for their patient and untiring exertions in revealing to us the mysteries of the home of the honey-bee.

Rev. L. L. Langstroth.

Hundreds—aye, thousands — to-day are using the improved methods, who know but little, if anything of these notable men.

We give herewith an illustration showing the kind, and beneficent face of Father Langstroth, (the latest article from whose pen may be found on page 55 of this paper), and subjoin a brief biographical sketch written by Mr. J. E. Pond, for the *American Apiculturist* about four years ago.

It is with great pleasure that we have the productions of his pen, consequent upon the return of his mental powers, by even a brief respite from his painful and oft-returning "head trouble." Mr. Pond's article is as follows :

Lorenzo Lorain Langstroth was born in Philadelphia, Pa., Dec. 25, 1810. As a boy he took great interest in natural history, and the happiest days of his youth were those spent in watching the habits of the various insects found in and near the city of his birth. His parents were of the "old school," and deeming such studies the height of youthful folly, gave him no encouragement therein, and it was not until the year 1838, that he began to learn something of the honey-bee. At that time he procured a colony or two of bees, and began studying them under great disadvantages, he at that time never having seen or heard of a work on bee-culture ; and for the first year of his pursuit in this direction, the only published work of that kind that came to his notice was written by a man who doubted the existence of a queen-bee.

After graduating at Yale College, he pursued the study of theology, and was settled over his first church at Andover, Mass. His health became in a short time so much impaired, that he was obliged to give up his pastoral charge, and in 1839, he removed to Greenfield, Mass., where for a few years he was engaged in teaching.

Finding that out-door labor and exercise of some kind was absolutely necessary, he devoted such as he could spare from his duties as a teacher to his apiary, and carefully verified all the experiments of which he had read, and entered into many of his own, for the purpose of gaining such knowledge by actual observation, as might be useful to him or to bee-keepers in general.

The methods of management then in use were not at all satisfactory to him, and he was constantly endeavoring to devise some way or means, whereby complete control of the whole interior of the hive might be given him.

He thoroughly tested bars and slats, and even endeavored to make a practical use of "the leaf-hive of Huber." This leaf-hive, however, was too clumsy (as any one may learn by attempting to use one), and he became almost discouraged at the poor success he met with.

At last the idea came to him, that if bees will build comb on bars set on top of the hive, why will they not build it in a frame hung in the hive ? He tried this plan with fear and trembling. Failure had been his lot so many times, that he had hardly dared to hope for success with this his new fancy. As we all know, this experiment did succeed, and the result was that in 1852, he introduced the frame to the public, and so well was his work matured, that the same style of frame he then devised, is now used more largely than any other, in the exact form he first devised it, and by the ablest apiarists in the country.

It will be needless to enter into the many discouragements and great opposition, with which he met in his endeavor to bring his frame into general use. It *has* been introduced, and introduced fully and completely; and such are its merits, that the Langstroth frame is now used wherever bees are kept.

By the term Langstroth frame, I do not mean simply the original frame he devised, and which he still advises ; but I do mean that all sectional movable hanging frames, by whatever name may be known, are Langstroth frames.

As an inventor, the name of L. L. Langstroth will live as long as bees are kept, and generations yet unborn will revere his memory. By means of his powers of invention, and through his instrumentality in putting that invention before the public, the apiarist of to-day, with a few days' practice only, is enabled to see and observe for himself, all those mysteries of which Virgil has so beautifully sung, and which the various writers of the past were only enabled to find out, as was Huber, by long years of patient labor, such were the difficulties that then surrounded them.

With the introduction of the frame a new era began, and through its means bee-culture has been raised from a business of insignificance, to one that is now barely second to any other.

Mr. Langstroth was not only successful as an inventor, but also as an author. His treatise on apiculture, "The Hive and the Honey-Bee," stands at the head of all written works on the subject, and has fairly earned the high distinction given it, of "the classic of apiculture."

Mr. Langstroth is now an old and feeble man. His health was impaired in early youth by too close attention to his studies, and now he is able to do but little for himself.

Modest and unassuming in his manners, and confiding as a child in the honesty of the world, he, to-day, instead of having reaped a fortune as the result of his valuable invention, is not worth a single dollar. But for all this, he stands before the world as one of Nature's noblemen, an honest man. He has fairly and fully earned the proud title that all bee-keepers, who know him, admit belongs to him—the prince of apiarists ; the Huber of America.

At the apicultural meeting in Chicago, in 1883, the Rev. L. L. Langstroth was present, and gave an interesting epitome of the rise and progress of American apiculture, and said substantially as follows :

In experimenting with bee-hives he ascertained the exact distance that bees will not join with propolis or build intervening comb. When this fact was demonstrated, all there was to do was to surround the comb in the bar with wood, and leave this distance between it and the hive, and it would not be fastened with propolis, or comb built in it. Thus the movable-frame was born.

While he was experimenting with it, a friend came into his bee-yard, but he did not hear him or see him until he said, "Friend Lorenzo, thee has not made an invention, but it is a revolution." Time has proved this to be true.

Mr. Langstroth said, that if the movable-frame had not been born to him, it would have been to some one else, as the time of its advent had fully arrived.

QUERIES AND REPLIES.

TRANSFERRING BEES ON CROOKED COMBS.

Written for the American Bee Journal

Query 509.—On transferring, what would be the best way in the spring to manage a colony of bees, which had built their combs on a curve and diagonally in the movable frames? Would it be better to cut right through or take the frames out bodily, and replace the comb in frames as well as could be done?—New York.

I would transfer by Mr. Heddon's new system.—P. L. VIALLON.

Drive the bees out, turn the hive upside down, cut loose the attachments, if any, from the sides of the hive, and dump out the whole business, *en masse*; then pick out the best combs for transferring, and melt up those curved too much.—C. C. MILLER.

Cut out all the crooked comb, extract the honey, and melt it for wax. Place frames filled wtth full sheets of foundation in the new hives. I would not bother with old crooked combs. Some of the best may be used, especially if it contains brood. It is generally more satisfactory to use full sheets of foundation in the frames.—C. H. DIBBERN.

Take out all the frames, separate carefully, and use all good comb; melt up all that is not suitable, and replace it with foundation.—H. D. CUTTING.

Let the bees swarm; 21 days thereafter drive out all the remaining bees and hive them. Next convert the crooked combs into wax. Such combs are not worth bothering with.—G. M. DOOLITTLE.

Cut out the combs, and shape them to the frames. Use the ordinary methods of transferring.—DADANT & SON.

Start on an outside frame, cut the combs loose from it the best you can, and remove it. You will now have room to cut the combs from the next frame. Use the straightest combs, and reject those that cannot be pressed into position. Secure them in position by wired sticks until the bees fasten them. —J. P. H. BROWN.

The best way is to keep an eye on the bees, while they are building, and not get into such a scrape. If the hive stands just right, perpendicular at the sides, with an inclination of 2 inches, they will do it. Press the combs back, and get them into as good shape as possible.—MRS. L. HARRISON.

If it had no brood, I would give it full sheets of foundation, and melt the combs into wax, and give them the honey from the combs, or feed syrup. I would save the comb with brood in till batched, and then make that into wax. Take the frames out bodily.—A. B. MASON.

Cut the combs loose from the top-bars, and pry them off. Then cut the combs loose from the side-bars, and lift them out.—M. MAHIN.

Cut the combs out, leaving each one as perfect as possible, and replace them straight in the frames, secured by clamps, sticks or strings.—EUGENE SECOR.

Cut right through and take out one comb at a time from one side. Take the combs in a warm room, and straighten them on a board or between two boards—there will be no harm done to the capped brood in the operation, with care; then transfer, tying the combs in the frames with cord, using side-pieces of wood to support the combs where needed. I would manage them like any other transferred colony, *i. e.*, keep them warm, give plenty of food, and empty combs or full frames of foundation, if needed.—G. L. TINKER.

Practice what has been called "modern transferring," as practiced and advised by James Heddon, and described by him in back numbers of the BEE JOURNAL.—W. Z. HUTCHINSON.

When the weather is sufficiently warm, so that the combs will bend without cracking, remove the frames bodily, then cut the first comb loose from all the frames except the first, and from the first so far as it is not in the right position; then bend it into place and fasten, and do the same with the others in turn.—R. L. TAYLOR.

Sometimes when combs are not quite straight in the frames, but are straight as to themselves, they can be turned about and made straight in the frames. I do no transferring, any more, upon the old system.—JAMES HEDDON.

Take the combs out and straighten them. I do this by laying them in frames, and pressing them, when slightly warm, between two pieces of board. The frames protect the comb. —J. E. POND.

I have frequently transferred combs from frame hives in the condition you describe. My way is to cut loose the two outside frames and remove them. I then pry loose all the frames and lift them out together, bees and all. Commencing on one side, the frames are cut loose and slipped from over the combs. I then removed one comb at a time, and transferred to the frames in the usual way. The curved and crooked combs were first laid on a board and pressed straight, and then fitted into the frames.—G. W. DEMAREE.

Take out in such a manner as will secure the combs with the least break or disfigurement. Just how to do this can only be decided by an eye-witness. Follow Mr. Heddon's plan; it is probably the best, in any event. Wait till swarming-time, and drum out the bees; hiving them on foundation. Wait 21 days and repeat the operation, then extract the honey and melt up the combs.—A. J. COOK.

Cut through the combs; take out one at a time and straighten them, and then transfer in the ordinary way. The "better way" would be to give the bees new frames of comb foundation. Such crooked combs are worth nothing, except for melting into wax.—THE EDITOR.

HORIZONTAL BARS AND BEE-SPACES IN HIVES.

Written for the American Bee Journal

Query 510.—Do you consider the horizontal bars and bee-space in the shallow brood-chambers of the sectional hives an impediment to the queen's laying capacity during the heighth of her egg-laying period?—Illinois.

No.—M. MAHIN.

No.—MRS. L. HARRISON.

Yes.—A. B. MASON.

I do.—J. P. H. BROWN..

I do not.—A. J. COOK.

I do not know; I have never tried them.—J. E. POND.

Yes, "I do," and I do not want any in my hive.—H. D. CUTTING.

Yes. Try it. It will cost you but little.—DADANT & SON.

I do not, and I have several hundred colonies in such hives.—R. L. TAYLOR.

Probably not; still, reason would say that the bees would better be breeding eggs and larvæ, rather than bars and empty space.—G. M. DOOLITTLE.

No. But suppose it was, what then? We do not make hives simply for the convenience of the queen. — W. Z. HUTCHINSON.

They are a disadvantage in the early spring, but seem not to be in the way after the warm weather sets in. See my answer to Query 508.—G. W. DEMAREE.

No, sir, they are not in the least; and the future will demonstrate for you what the past has demonstrated for me.—JAMES HEDDON.

I do not think that the little time lost by the queen in passing from the bottom to the top frames will make much difference.—P. L. VIALLON.

I have had no experience with the sectional brood-chamber hives. I should consider the bars and bee-space through the centre of the brood-nest an objection.—C. H. DIBBERN.

Not having tried these very extensively, I do not know; but I think that

when the proper season for egg-laying and brood-rearing comes, such things are no impediment. When a queen gets up in the section-case, and stays there too long, you will think she enjoys odd nooks.—EUGENE SECOR.

Hardly, as that occurs when the weather is quite warm, and bees can keep a large surface covered, making it easy for the queen to pass back and forth from one section to the other. There may be a little disadvantage from having the bees obliged to cover a space where the queen cannot lay.—C. C. MILLER.

They are, in early spring, when the colony is weak in numbers, but after the bees become strong enough to enter an upper case, I regard the horizontal bee-space between shallow brood-cases an advantage, as breeding is thereby greatly facilitated. Except for queen-breeders' use, a brood-frame should not be so shallow that pollen will be stored in sections placed over one brood-case; that would mean a frame not less than 7 inches deep.—G. L. TINKER.

Oh, no! The inconvenience to the queen, if any, is not worth a passing thought. At that time, the weather is warm. If it is detrimental at any time, it would be in the spring when the bees are weak in numbers; but those having shallow brood-chambers in use, in large numbers, say that such is not any impediment.—THE EDITOR.

CORRESPONDENCE.

DRONES.

At what Age are Drone-Bees Disposed to Mate?

Written for the American Bee Journal
BY REV. L. L. LANGSTROTH.

On page 614 of the BEE JOURNAL for 1885, I published some observations showing that under conditions apparently quite favorable, a drone crept out of its cell in about 24 days and 8½ hours after the queen had laid an egg there. After nearly two years of prostration from severe head trouble, grateful to Him who has restored my health, and with kind greetings to the bee-keeping fraternity, I continue the record of observations then made:

August 13, 1885—Drones fully two days old can only make short, flying leaps.

August 14—When three days old, if tossed up into the air, they fly well. One of this age kept out of the hive half an hour, and eagerly licked up some thin honey.

August 27—I gave some drones just hatched in a good colony, to a strong nucleus.

August 30—At 2 p.m., with the thermometer indicating 80°, four drones took wing. One coming just outside, discharged a whitish, cream-like mass, quite unlike the fæces of the common bee, which was eagerly licked up by the workers! Another, caught before it took wing, discharged a clot of a somewhat yellower color. Evidently drones cannot retain their fæces as long as workers. Some provision would therefore seem to be needed against a colony taking harm, when the cleansing flight of the drones is unreasonably delayed. As no drone was gone more than five minutes, none had left to mate.

September 1 and 2—The weather was unfavorable, and a few drones took wing, but not to mate.

September 3—The temperature was 76° at 2 p.m., and the weather fair, with a gentle breeze. Of the many drones that flew, some returned in less than five minutes, most in ten minutes, and a few in fifteen minutes. I think that not one sought to mate, for a drone, unsuccessful in finding a queen, will not come home until his honey-sac is nearly empty—which usually happens in about half an hour.

From all the observations made at this time, I conclude that drones cannot be relied upon for sexual duty, until they are at least eight days old, and that most of them are not serviceable quite so young. Unlike the common bee, the drone having no special office inside the hive, it is wisely ordered that it should seek to mate when about half the age of a worker.

September 15—The temperature was 60° to 76°, and the weather was cloudless. At 1 p.m. drones were in full flight. I put a Jones' perforated-zinc guard on that strong nucleus, to be able more easily to catch the returning drones. The most of them evidently flew to mate; the last two were gone 51 minutes. I caught them all; they filled two large queen-cages. After most of them had been confined over half an hour, I placed the open cages more than a foot from the hive-entrance. To my surprise, many of them unable to take wing, crawled to "the flight hole," a truly woe-begone set of beggars, impatient, nay importunate, to be fed; and the workers were all eagerness to supply their wants! One, too far gone to crawl or even to beg, on having his proboscis wetted with thin syrup, though at first barely able to take it, soon grew strong enough to fly. From numerous experiments made at this time, it seems that if drones are kept from feeding only half an hour after returning from a wedding-trip, they become too weak to fly.

Catching, on the same day, some drones which were being worried by a strong colony, their honey-sacs were found to be well filled. It is easy to see how soon a drone must succumb, if the bees merely prevent it from eating. I believe that more perish in this way than by any actual violence done them by the workers.

I hope to be able to continue this subject in a future number.

Dayton, O., Jan. 10, 1888.

FIRE INSURANCE.

Insuring and Wintering Bees—Sowing Alsike Clover.

Written for the American Bee Journal
BY J. B. LINDLE.

In reply to Mr. C. A. Waldron, about insuring bees against loss by fire and lightning, I will say that I have $500 insurance on bees in the cellar or in the yard, not to exceed 200 feet from the dwelling; the valuation not to exceed $10.00 per colony. They were insured on April 17, 1883, for five years, in the Phenix, of Brooklyn, N. Y. I could have taken $1,000 insurance. During this time my apiary has never exceeded 270 colonies, nor have I had less than 140 colonies.

Owing to demand, sale, and the season, to-day I have over 100 colonies less than on June, 1887, as many of them starved. I did not obtain one pound of surplus honey, and I fed over 1,200 pounds of honey in frames and half-filled sections extracted from the year 1886. I have never fed 50 cents worth of sugar, although I have handled and kept bees for 31 years, and for over 15 years I have made it my special business. At least 25 per cent. of my colonies are light now.

Bees Wintered in the Cellar.

I winter my bees in the cellar, the hives being about four inches from the floor, and tiered 4 or 5 high. There is no covering over the honey-board, or oil-cloth on top, and the entrance is left wide open. I never allow the temperature to be below 40°, and never above 48°, if I can possibly help it. I have wintered bees with the honey-board off, and experimented in different ways, but for over five years I have wintered my bees as above stated.

The hives are tiered up now, with access to the front of each hive or entrance, to examine the entrance in order to keep it open. So far this winter my bees have been more quiet than usual, and scarcely any dead bees are outside. They seem to enjoy it in the

cellar, with the mercury 28° below zero outside.

Sowing Alsike Clover for Bees.

I can endorse all of Mr. Baldridge's article on page 10, except that I would sow 4 pounds of Alsike seed on most land, and not on thin, dry, sandy land. It will catch in wild-grass sloughs. It thrives best with red-top clover or pasture. If for seed, sow 10 pounds per acre, and it will not lodge so badly. Be sure to get clean seed, and not mixed with sorrel, as some Eastern seed is.

Muscatine, Iowa, Jan. 16, 1888.

BEE-CELLARS.

Wintering and Insuring Bees in Cellars.

Written for the American Bee Journal

BY E. W. COUNCILMAN.

This article is written in appreciation and corroboration of Mr. A. C. Tyrrel's article on page 25, on "Bee-Cellars." Three years ago I built a bee-cellar, and finished late in the fall so that the mortar in the walls had not time enough to get dry. But the cold winter came on, and I put in it 25 colonies. Of course the combs became somewhat moldy, but I lost only 2 colonies.

Last winter, the cellar having had plenty of time to become thoroughly dry, I had no moldy combs, and I put out every colony on the summer stands that I had put into the cellar. This winter I have 80 colonies in the cellar, and from the best of my judgment I believe that I will carry them all through.

Now as to the secret of my success: Of course I wanted to discover all I could about the conditions, and as a consequence a thermometer has been in constant use during all temperatures of weather. The temperature in the cellar has ranged from 32° to about 45°. Always in going into the cellar, I would hear that low, contented hum, except perhaps towards spring, and during the warm, soft weather.

I have thought many times of making the cellar warmer, even by artificial heat, thinking that the bees would use less honey, perhaps breed faster, and come out stronger in the spring; but after comparing Mr. Tyrrel's experience with my own, I have concluded to adopt David Crockett's plan, when he hit the "bull's eye:" "Let well enough alone."

Insuring Bees in a Cellar.

In regard to insuring bees, mentioned by Mr. A. C. Waldron, on page 8, I would say that my bees are insured in the Dutchess County Mutual Insurance Company. We have no trouble here in getting our bees insured, any more than any other valuables in the cellar.

Bee-Mortality in the Cellar.

I had a similar experience in regard to mortality among my bees, as Mr. Pinkerton describes on page 11; and besides, quite a number of my colonies had the diarrhea. I attributed the trouble to honey-dew (a substance with which I am not much acquainted). I found a black, sticky substance stored in the hives (in some hives large, and others small quantities), which bee-men called "honey-dew." The bees which ate of this black and sticky substance, and especially those colonies that had stored a good deal of it, had the diarrhea, and large quantities of bees would be found dead in front of the hives. Up to the present time this winter, I have swept my cellar twice, and I have carried out perhaps not to exceed four quarts of dead bees. Last winter, from about half the number of colonies, up to the present time I am sure I had carried out twice or thrice that quantity. Indeed, I was frightened, for I thought that my bees were all going to die.

The mortality among bees throughout this State, and many other States, was terrible. Those who claimed to be competent to judge, estimated that one-half, or more, of the colonies died before the honey season was reached last spring.

My cellar is 14x18 feet, about 7 feet high, and has a cemented bottom. The walls are 2½ feet thick, and laid in cement. A 4-inch stove-pipe extends from near the bottom, near the centre, up through the kitchen floor, and is attached to the kitchen stove-pipe. This is all the ventilator the cellar has. The bee-cellar is separated from the vegetable cellar by a sliding door. I have been very successful in wintering my bees. The temperature ranges from 40° to 45°.

Newark Valley, N. Y., Jan. 13, 1888.

BEE-KEEPING.

What I Know and What I do Not Know about Bees.

Written for the American Bee Journal

BY J. M. HICKS.

I know that the year of 1887 was, as a honey year, in many localities a very poor one, and especially in this locality. We had no honey, but plenty of drouth. I know that but few bees have been so fortunate as to have gathered stores sufficient to last them through the winter; that I was not the only bee-keeper who failed to get an ounce or a pound of honey as a surplus from my apiary the past season, but I let the bees keep all that they gathered, and fed them over 400 pounds of honey besides, in order that they should be well provided with honey for the winter.

I am frank to confess that the last year has been the poorest throughout Indiana, as a honey season, that I have witnessed in 50 years, and there will not be a hundred pounds of honey placed on the market, of the 1887 crop, for each thousand pounds of 1886 crop, or, in other words, not one-tenth as much honey was gathered the last year as was gathered in 1886, and I predict that whoever eats honey on the good, old buckwheat cakes for breakfast, will pay a handsome price for both honey and buckwheat flour.

I know that the science of bee-keeping is fast simmering down and into the hands of only those who will pay proper attention to the business, in order to make it a success. I also find that it is not those who can count the greatest number of colonies that make the most money at keeping bees, hence it is quite evident that a locality or certain neighborhood may become overstocked with bees, just the same as a given number of acres of grass can be overstocked with cattle, horses or sheep.

The Unknowable in Bee-keeping.

I do not know that bees can be successfully kept where there is no natural resources for their support, and no effort made by the bee-master to supply pasture for them to gather honey from; neither do I know that bees can be made profitable in any apiary unless they receive proper care and attention in order to make them so. I have also long since found out that pure Italian bees, and the black or German bees of this country, cannot be kept in the same apiary and have all the increase pure of either race. Neither do I know (as some profess) that a pure Italian queen that has mated with a black drone, can produce pure Italian drones afterwards, notwithstanding the opinions of some naturalists to the contrary; and furthermore, I have not yet learned that virgin queens can produce drones that can be relied upon in further propagation of their race; or in other words, I do not know that such drones can be of any use in the fertilization of other queens, either Italian or native. To sum it all up, I am still of the opinion that if a book was written containing all that we did not know, it would be a much larger volume than the one would be if all we know about bees were published in it. Attend to the bees, and they will pay!

Battle Ground, Ind.

PAST—FUTURE.

The Mysteries of Bee-Keeping all Done away With.

Written for the Prairie Farmer
BY MRS. L. HARRISON.

The day of the log-gum and square box as a receptacle for bees is now past, excepting when on rare occasions, a runaway swarm is caught, and there is nothing at hand to put them in but a nail-keg or salt-barrel. From such a beginning, many large apiaries had a start, for when the bees persisted in living and increasing, until even the discarded body of a pump had to be used to put them in, their owner roused up to the necessity of further accommodations, and the result was a "patent hive."

Some enterprising individuals took advantage of this state of things, and went through the country building bee-palaces, which had a short run, but a merry one. Their dupes thought them splendid, though there was an abundance of those terrible moths.

Following the bee-palace came a square hive, set up on high legs, and run to a point below, so those terrible enemies of the bees, the moths, would roll out at the bottom. This was good in some respects, and is occasionally seen at the present day at farm houses. All attempts at keeping bees in houses have been failures with one exception, which is pronounced a success, but is covered by a "patent."

There are two ways of managing bees; one is to let them alone, and the other is to control them, at least in a measure. In order to do the latter they must be in a receptacle from which they can be removed at the pleasure of their owner.

"Dehorning" Bees.

The secrets and mysteries of bee-keeping have all been let out of the bag, by the introduction of the movble-frame hive. And if some enterprising bee-keeper would only discover a way of removing the sting in like manner as horns are now removed from cattle, bee-keeping would make rapid advancement.

On my way to Chicago to attend the late bee-convention, I sat for a while in a seat with a lady who, in company with her husband, was bound for the Fat Stock Show. She said they were engaged largely in rearing Short-horns, and that last summer they purchased a vicious bull which she had feared would kill some of her children. The men had not had time to dehorn him until recently, but after it was done it was laughable to see how meek he was; the fight was all taken out of him. It did not appear to hurt him a mite, for he went immediately to eating hay. Now, who will imitate the cattle-raisers and dehorn the bees of there weapons?

Apiarists are very uneasy, never content to tread in the beaten paths of their fathers; and when you think that you have the latest furniture, fully up to the times, something new is invented which leaves you far in the shade. The latest "fad" is invertible hives. Now, I cannot imagine what could possess any one to turn a hive upside down. I never tried it, but one of our horses did, and he did not want to repeat the experiment, neither did I, or the bees.

Peoria, ⊙ Ills.

UNFILLED SECTIONS.

How to Utilize the Comb in Unfilled Sections.

Written for the American Bee Journal
BY W. H. STEWART.

It seems to trouble a great many bee-keepers to have so many unfinised sections at the close of the honey season. Now these unfinished sections I look upon as so many blessings, and I would like to have ten thousand of them on hand the coming spring. I do not want them to go back on the hives again for comb honey, but I will tell the readers how I dispose of them:

In the fall, after the honey season is over, I put them in wide frames, extract the honey, and then put the sections out of the way of the mice. I always use full sheets of worker foundation in the sections. In the spring, when the weather gets warm, or just before swarming time, I take a case-knife and run it around the inside of the section, cutting the comb out nice and square. These combs I fit nicely in the brood-frames, and fasten them with transferring strips or pieces of hard, twisted twine.

I always rear my own queens, and when one begins to lay, I give her a couple of frames of hatching brood, and fill up the hive with these filled frames, or hang them in extracting supers. In a short time I have worker-comb which is as nice and straight as any one would wish to see. These combs do not cost me as much as full sheets of worker foundation for the brood-chambers, yet they are just as nice and as good.

Let bee-keepers, like myself, who have more time than cash, try my plan and see if they are not well paid for their trouble; for I think that it does not pay a bee-keeper who buys all his foundation, to melt up a piece of comb four or more inches square.

Galt, ∞ Ills.

QUEEN-REARING.

The Three-Cell Plan of Rearing Queens.

Written for the American Bee Journal
BY J. H. HIGGINS.

In regard to queen-rearing, I would say that a great many queens can be reared by the lamp-nursery method, and also by the nucleus plan; but are they as good queens as any? My experience says they are not. They are smaller, and do not live long; neither do they fill their hives with bees as well as do queens that have been cared for from the egg. The workers are not so large, and they do not work so well as do those reared from other queens; hence so many weak colonies and no honey. Can we not remedy this? I think that we can, and my practice proves to me how it can best be done. It is as follows:

I use a 9-frame hive, and when I want queens, I take from a strong colony the queen and all the brood-frames, and give them one frame of eggs just beginning to hatch, which I take from a choice colony. I then place one of their frames of honey on each side of the frame of eggs until the next day; this being done in the evening. The bees build queen-cells that night, some of them being good ones, and others are not. The following day I pinch off all but three of the best queen-cells, and give the colony some honey and six frames of brood just gnawing out. Bees will then be hatching all the time, which will keep the colony very strong, and the queens will be fully developed.

On the tenth day I divide the colony into three parts, with a queen-cell in each division, and give them the first six frames that I had taken from them.

Queens reared as above described, have proved to be good in every case; they are always large and prolific, and bees reared from them are large, are excellent workers, and they can carry more honey than can bees reared from inferior queens. The queens will lay more eggs, and last longer than any others that I can produce. They also winter well and build up very rapidly in the spring. I have them now nearly one-third larger than any bees I ever saw here.

I read of "over-dosing," in the BEE JOURNAL, but they do not do it for me with the "three-cell plan," as I call it. I believe in keeping all colonies strong at all times, and this is one of my plans of doing it. Try the plan and be convinced. But it will not do to rear "dollar queens" in this way; at least I could not do it.

Victoria, ∝ Tenn.

ANATOMY.

Rudimentary Glands in Bees, and the Evolution Theory.

Written for the American Bee Journal
BY PROF. A. J. COOK.

I am very glad to answer Mrs. Chaddock's very pertinent questions on page 44. The rudimentary gland of the queen surely argues not conclusively, of course, that the old-time queens were possessed of the same glands functionally perfect. Richer food, through long ages, developed enlarged ovaries, and a correspondingly greater fecundity. At the same time, less use caused a wasting away—atrophy—of the glands in question. The condition of the glands illustrates the law of retrograde development. In the same way snakes have lost their legs. Zoologists find rudimentary legs now, and believe such legs indicate legs once useful.

True, the absence of such glands in drones, and their reduced size in aged workers, argue neither for nor against evolution. Yet unless drones were to to change their habits, we can readily see that "natural selection" could not lay hold of any variation in structure to produce such glands.

That rudimentary organs are in themselves conclusive proof that they originated from a useful condition of the same organs, is surely disproved by Mrs. Chaddock's happy illustrations. Yet from the study of fossil forms, and such animals as the blind fish in caves, together with the study of all related living species, have convinced biologists that in most cases rudimentary organs are the result of atrophy from lack of use.

Agricultural College, ♀ Mich.

REVIEW.

The New Bee-Book Lately Issued by Mr. Simmins.

Written for the Canadian Bee Journal
BY SAMUEL CUSHMAN.

"A Modern Bee-Farm, and its Economic Management," is the title of the latest addition to bee-keepers' literature, and is written by Mr. Samuel Simmins, an extensive English honey-producer and queen-breeder. Many of us have his valuable pamphlet (before mentioned in these columns), and those who found that a treat will not be disappointed in this his latest production.

As the title implies, he tells us what he does and how he does it in the great Sussex apiaries, and it seems to me that bee-keepers must be few who cannot find something new as well as interesting in the book.

The author tells us in the preface, that practical bee-keeping is his subject, and that with few exceptions the instructions given are based upon the writer's twenty years' experience in the apiary. That he has learned more by his failures than by his successes, as in the endeavor to overcome his difficulties he has brought out his most important methods of management. He believes the man who can give the subject close study and application, and finds himself adapted to the undertaking, may safely invest his money, and receive better returns than from many other occupations of the present day.

The book is not in any sense an encyclopædia of modern bee-knowledge; the author simply gives the methods found to be most economical and practical.

Under "Bee-Culture as a Profession," beginners are advised to first serve a couple of years in some well-established apiary, instead of keeping a few colonies and gradually increasing the number. Time and money will be saved, better plans formed, and success will be more certain. The amount of capital required is considered, and the various expenses estimated. Five hundred pounds, or about $2,500 is considered necessary to properly commence the business with 100 colonies.

Much valuable advice is given on the sale of bees and queens, and under the manufacture of appliances beginners especially are advised to steer clear of the business of selling supplies. In the economy of the hive, the suppression of drone-production is a step toward the prevention of swarming.

The chapter on "The Varieties of Bees," is equal to anything I have seen on the subject. Blacks or natives are highly valued because they are well adapted to the production of comb honey; and when the bee-keeper has all the colonies he requires, no objection can be made to the sole use of this race when comb honey alone is sought for, although he mentions further on that pure blacks cease storing quite a month sooner, and are frequently troubled with wax-moths, while the foreign varieties never are.

It is claimed that blacks have great conservative energy; that the young commence work outside at a much earlier age, and a given number will produce and maintain a much larger amount of heat than the same number of any other race. That here is the sole reason why these bees are always ready to take to the supers, and are better comb-builders than others, though they may be occupying the same space with less than half the population. That here we have the best material for an improved strain of bees; and that by the admixture of foreign blood we may get greater laying-powers in the queen, a better disposition in bees, and eradicate the inclination to cease storing honey toward the close of the season, while it is yet to be gathered.

He advocates breeding from black queens crossed with Carniolan or yellow drones, Cyprians preferred to Italians. Black or Syrian drones should be vigorously excluded. He says that Italians store honey and draw out foundation later in the season than natives, as well as gather more honey; also they are more gentle, but their comb honey is not quite so good, and they are not as good comb-builers, are slow to enter supers, and quite useless for queen-rearing purposes. That Carniolans, of all pure races, are the best "all purpose bee," although not quite equal to the Cyprians as honey-gatherers; are the most gentle of all, and best for beginners. He thinks they were at one time a cross between the Cyprians and Germans, and the color reverted back to that of the majority. That Cyprians are destined to take the lead among the yellow races; though not suitable for the production of comb honey, they are very active honey-gatherers, of great beauty, and (with him) extremely docile. Their body is smaller than the native variety, and unlike the Italian workers, opens to a fine point.

In chapter 6, "How to Obtain Good Working Colonies," we find the following: "The secret of successful honey production consists in always maintaining the proper proportion of adult working bees in relation to the quantity of brood and young bees." That in our working colonies we should always have young queens, and retain none that have seen their second summer. That queens cannot be too prolific, but must do their best before the season opens, after which they will simply keep pace with the wear and tear upon the life of the workers. To provide that the best powers of the queen shall be used up before actual storage commences, we are to have young queens in very strong colonies the fall before.

There is much valuable advice given in the chapter on planting for bees, and we are assured that *systematic planting makes profits certain.*

I was much interested in feeding and feeders, buying, packing and moving bees, and especially in the production of wax, non-use of foundation, and management for heather honey.

It gave me great pleasure to see the following under queen-rearing: "It has been observed that a young queen

feeds upon pollen extensively until she has met the drone, from which time she is fed by the bees entirely upon digested food. Now just here I wish to show the folly of keeping young queens confined in the frame nurseries for a number of days after hatching, as is done extensively in several American queen-rearing apiaries. Without the nitrogenous food at this time when the constitution should be established, they are dragging out their existence upon sugar alone at the most important period of their growth."

Mr. Simmins believes, as does Mr. Alley, that better queens can be reared by proper artificial means than under the swarming-impulse.

In justice to the author I refrain from giving more of this book, but I can assure the readers that I have given but a small part of its good points. This work is now for sale in this country. It contains nearly 200 pages, and is well illustrated. I advise all progressive bee-keepers (especially those who make it a business) to thoroughly study this book.

Pawtucket, ♁ R. I.

PALESTINE.

An Account of Bee-Keeping there by an Eye-Witness.

Written for the British Bee Journal
BY J. BALDENSPERGER.

There is only one way to enter the "land flowing with milk and honey." According to mythology, Andromeda was exposed on the rocks lying out before the town of Jaffa to the seaside, forming a small harbor for little sailing vessels, and was delivered by Perseus from the sea-monster going to devour her. It is wild enough, the entrance to this town. I have been standing on the shore looking out for friends coming back from France and England, have seen them fighting their way through the angry sea, and exposed to the waves carrying the boats high up to the top and down again into a deep gulph of water hiding them from sight. Why do they not choose an easier way? The steamer can come no nearer, for the rocks which abound here. It is always a terrific sight to see travelers and pilgrims landing. Yet after having traveled so many days and nights, it is only a mile on the raging sea to touch the Holy Land. It is here the prophet Jonas found a ship going to Tarshish, embarked for that place, and was seized by a tempest. Joppa of the ancients, now Jaffa, is the port of Jerusalem. It is here that numbers of bees are kept, both in the orignal way of keeping them, *i. e.*, in clay pipes, and in Langstroth hives, kept only by your humble servant.

Although Palestine is acknowledged by many authorities to be the real home of the honey-bees, and although we never read in the Bible of bee-keeping, yet, very often we read of the "land flowing with milk and honey" promised to Moses. Some writers on Palestine are mistaken when they mention wild bees as more abundant than the domesticated ones, because, in Psalm lxxxi. 16, the Lord promises honey out of the rock; this is only to illustrate the abundance in saying, "Even out of the rock shall I fill thee with honey." In nowise was it meant that the honey out of the rock was more abundant than the honey out of domesticated hives. Although it is possible runaway swarms were more secure from the interference of man before the invention of gunpowder, because they could not easily be had without breaking the rocks, yet certainly they did get some, or else it would not have been mentioned.

Very likely the Canaanites kept bees in the same way as the Arab population of Palestine, partly their descendants. All Eastern invasions were followed by a retrograde movement, agricultural, architectural, industrial, etc. We know that the Canaanites had chariots and highways, but nowadays an Arab is astonished to see a chariot, introduced only about 18 years ago from Europe; and, to use their own expression, it is a "thing moving along with nothing but two horses in front to drag it." They had oil-mills exactly the same as now. The invasions destroyed arts and sciences, whilst the weaker inhabitant of the country was always more or less abandoned, and continued in his primitive industry, thus carrying throughout more than thirty centuries household and agricultural implements without the least improvements, and in many cases carrying the very name throughout all the generations, notwithstanding the change of languages from the Canaanites, Hebrews, Greeks, Romans, Arabs, Latins to Turks and Arabs again.

Go to an Arab village, and you will find women grinding at the mill, either alone or as illustrated in Matt. xxiv. 71, "Two women shall be grinding at the mill." The mill is small, and can easily be transported. Two women sit down on each side of the mill (the upper mill-stone having a handle with just place enough for two hands), thus driving the mill, and singing a monotonous, solemn song of their departed loved ones and friends. It is to be concluded that the aborigines of this country kept bees in the same way as the inhabitants now do, by comparing the above.

Honey was always abundant in Palestine—I mean real bees' honey, gathered from flowers of all kinds abounding in the land, the almond, pear (our largest crop), the orange-blossom, and the cactus; and in summer-time, when everything seems dry, the sesame (from the seeds of which the oil of sesame is produced, and used to a great extent in the country), and the labiate flowers, from which still the very highly flavored and high-renowned honey of Hymettus was gathered from thyme-blossoms.

Though some travelers tried to illustrate the fact of honey flowing from the trees, it is in no way common, for the want of trees or forests; and in the case of Jonathan, 1 Sam. xiv. 25–30, the honey was not dropping from the trees, but was flowing upon the ground, according to the new version; and, furthermore, Jonathan dipped his rod in a honey-comb, thus it was no honey-dew, and he said: "My father hath troubled the land; see, I pray you, how mine eyes have been enlightened because I tasted a little of this honey. How much more, if the people had eaten freely to-day of the *spoil of their enemies* which they found?" The Israelites came on the encampment of the Philistines, and suddenly fell on them. They overthrew everything, and the honey, kept in jars or he-goat skins then as nowadays, was overturned by the frightened cattle and soldiers, and was *flowing upon the ground.*

The honey-dew is only found in some trees, but in no locality that I know of, will it yield honey enough to give anything more than a taste to bees in search of water or pollen during the intermediate months of the honey-flow. In the Jordan Valley no bees are kept, because only the nomadic Arabs live here, and never trouble themselves in their wanderings with bees.

I dare say, except orange-trees and cactus-plants introduced here, the other honey-plants have always been here, and the country yielded honey in quantity sufficient to form an article of export (Ezek. xxvii. 17). Honey was translated from the Hebrew "dabash," the real old name for honey. The Arabic word for honey is "assal," whilst a treacle made of the juice of grapes and boiled is called "dibs" or "dibes" in Arabic; wherefore many writers suppose that the honey so often mentioned in the Bible was not bees' honey, but this dibes or grape-treacle; when we read in Judges, xiv. 8, 9, that there was a swarm of bees (daburin) and honey (dabash) in the carcass of the lion, and that Samson

took thereof in his hands and went on eating, it leaves no doubt as to the identification of "dabash" with honey, and can therefore be applied to most other instances of "dabash" as honey, excepting a few cases, as in Job xx. 1.

"Brooks of honey," were most probably meant for the grape-treacle, as can easily be understood if you bear in mind that grapes still are pressed out in pits cut into the rock, and flowing from one pit to another for purification, which was the method used thousands of years ago, and certainly never applied in the use of honey, because of robber bees and the thickness of honey too much would thus be wasted. The thinner treacle can easily be taken out of the rock again without much waste. And again, this "dabash"—bees' honey—was collected by the bees (daburin), and not the hornets, as suggested by some; hornets are now called "dababeer," and "dabur," the singular Arabic. The mixing up of the two names is comprehensible when we remember that the root of the word, "dabr," signifying "the buzzer" or "buzzing," was given to all Hymenoptera and Neuroptera, and was only distinguished later when civilization came in, and Arabs called the common fly "dibaan," the hornet "dabur," and the bee "nahle;" so with the sweets "dibs" or "dibes," the grape-treacle, and "assal" honey.

In almost every village of Palestine and Syria bees are kept, and, with a very few exceptions, they do not keep such numbers to depend upon them for their living, but simply a few hives placed one on the top of the other, having an arch built over them or some protection intended to keep away the hot sun-rays, which in summer-time would melt the combs but for the protection. The clay pipes are very cool as long as they are kept in the shade, but as soon as exposed to the sun they become fearfully hot. In winter time the accumulation of the hives keeps them warm in the first place, and again, nature helps itself, for any colony unable to winter is destroyed in the course of the autumn, by different enemies abounding here as in all other countries. The hornets, the wax-moth, the tellio-agamide, and gecko abounding here, and the bee-eater, being the most dangerous ones to be named.

In general, bee-keeping is carried on in very primitive and negligent ways in some respects, as weak colonies are never cared for—all such colonies are left over to themselves. The good colonies with plenty of food and bees only successfully pass the winter, thus establishing a good stock on one hand, whilst on the other, weak colonies could be united into a strong one.

The only work performed is in the swarming season, when swarms are watched for a few weeks in April and May, and hived into clay cylinders. The back covers are put on after hiving, and besmeared with wetted argillaceous earth. The interior is rubbed with citron leaves, and the small fly hole stopped with a few herbs for a day or two. They are then released, and not again looked to till the honey-crop.

In some localities honey is taken twice, gathered from the early flowers and in September. The more general honey harvest is the September crop. The covers are then hastily broken open, a few puffs of smoke from the pitcher-smoker (and it is a pitcher with a hole in the bottom, filled with manure; some burning coals are put into it, and by continual blowing the smoke is kept going) are blown on the bees, a comb or two of honey is cut out and put away, the cover is immediately replaced, and the bees are left to themselves for a whole year. In such apiaries the moth is the worst enemy, destroying numbers of bees yearly.

In the watered localities, or such as afford good food for the carnivorous hornets, the bees suffer greatly by them. They are the only enemies against which the inhabitants use their skill; they burn heaps of manure in front of the hives, keeping up a smoking for several weeks, from September to the beginning of November, which keeps the hornets out and the bees in.

The Palestine bees are good honey-gatherers, and the queens are very prolific and beautiful. It is not rare to have colonies yielding upwards of 100 pounds for a single crop, though it is not the average. This is for bees handled in Langstroth hives—our system. Excepting during the orange-blossoming in April, our bees can be handled without a veil, the strong perfume at that time filling the air rendering them fierce. Have any of your correspondents any experience as to the reason why bees are fierce—influence of weather, scent of flowers, etc.? With us the east winds render the bees angry, and the strong odor of orange-blossoms makes them fierce.

Jaffa, Palestine, Dec. 7, 1887.

BEE CONVENTIONS.

Wisconsin State Convention.

The bee-keepers of Wisconsin meet in their fourth annual convention, at the Capitol in Madison, Feb. 8, 1888.

In consequence of the State Agricultural Convention being held in the same week, with its usually interesting essays, speeches, papers and discussions, the bee-convention will probably last but one day. Reduced rates can be secured on all railroads, thereby making the expense much less, and giving those who wish to do so, a chance to attend both conventions.

The following is the programme for the convention:

President's Address, C. A. Hatch, Ithaca
Notes from American Bee-Keepers' Convention, Frank Wilcox, Mauston.
Relation of Producer to the Commission Merchant, A. V. Bishop, Commission Merchant, Milwaukee.
The Heddon Hive and How to Use it, W. H. Putnam, River Falls.
How to Build a Bee-Cellar, D. D. Daniher, Madison.
How to Get the Best Extracted Honey, E. France, Platteville.
Comb or Extracted Honey; Which? F. Minnick, North Freedom.

C. A. Hatch, President, Ithaca, Wis.
Frank Wilcox, Secretary, Mauston, Wis.

Susquehanna Co. Convention.

The Susquehanna County Bee-Keepers' Association met at the Jay House, at New Milford, Pa., on Jan. 7, 1888. A discussion on the "Prevention of increase," began the proceedings of the day, and which was fully discussed. The subject, "Is it advisable to Italianize an apiary?" was taken up, and after a thorough discussion, it was decided that it was advisable. An interesting talk about hiving swarms was then given by E. B. Smith.

The number of colonies reported by 17 members, was 334, spring count, and increase, 191 colonies. Amount of surplus honey reported was, 11,175 pounds. H. M. SEELEY, *Sec.*

CONVENTION NOTICES.

☞ The Eastern New York Bee-Keepers' Association will meet on Jan. 24, 25 and 26, 1888, in Agricultural Hall, at Albany, N. Y. Every one is welcome. We are sure to have a pleasant an profitable time.
JOHN ASPINWALL, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Stark County Bee-Keepers' Society will be held in Grange Hall at Canton, O., on Feb. 4, 1888. A full attendance is desired, as business of importance will be considered.
MARK THOMSON, *Sec.*

☞ The Northeastern Ohio, Northern Pennsylvania and Western New York Bee-Keepers' Association will hold its ninth annual convention in the Commercial House Parlor, in Meadville, Penn., on Wednesday and Thursday, January 25 and 28, 1888. Reduced hotel rates have been secured.
C. H. COON, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Jan. 24-26.—Eastern New York, at Albany, N.Y.
John Aspinwall, Sec., Barrytown, N. Y.

Jan. 25, 26.—N. E. Ohio, Northern Pa. and W. New York, at Meadville, Pa.
C. H. Coon, Sec., New Lyme, O.

Feb. 4.—Stark County, at Canton, Ohio.
Mark Thomson, Sec., Canton, O.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Bees Insured, etc.—D. P. Stevenson, Kenton, ☌ O., on Jan. 16, 1888, writes as follows concerning the insurance of bees against loss by fire :

On page 8, Mr. A. C. Waldron says that he tried to get his bees insured against loss by fire, and was refused. Well, I have my bees insured against loss in case of fire, and in a good company, too. My 40 or 50 colonies of bees are kept on the summer stands, between the dwelling-house and barn, on about one-fourth of an acre of ground, fenced in for a chicken park. I have dwelling-house, chicken-house, bees, barn, horses, cows, grain, etc., all insured in the same company. Bees did very poorly here the last season. It was too dry.

Wintering Well.—S. H. Mallory, Decatur, ♀ Mich., on Jan. 10, 1888, says :

Bees are wintering well here so far. We have had quite mild weather most of the time ; 4° below zero being the coldest registered here. We are having a regular Michigan blizzard to-day.

Bees Packed in Leaves, etc.—Otto Kleinow, Detroit, ☌ Mich., on Jan. 16, 1888, says :

I began the winter with 86 colonies of Italian bees, about 75 colonies of them being in fine condition ; some of the others were weak and short of stores. All are on different sized frames, some in one and two story chaff hives, and some are in single-walled hives ; they are packed with leaves all around, and under the bottom, and all are alive now. Last season was very dry here, and bees hardly gathered enough for winter stores ; some of them I had to feed. I fed about $25 worth, of the best granulated sugar. Some of my colonies had from 25 to 40 pounds of honey in the hive. By Nov. 1, 1887, a few had only about 1 to 5 pounds of stores ; those, of course, were the late swarms.

Hive-Entrances in Winter, etc.—W. S. McCrum, Etna Green, ♂ Ind., on Jan. 16, 1888, says :

My 20 colonies of bees are being wintered on the summer stands, packed with 4 inches of clover chaff all around, and about one foot deep on top. The entrances are ¾-inch by 4 inches wide. 1. Is that too large ; or is it not large enough ? 2. Would it not be better to close the entrances, or nearly so, with snow, when the temperature is at zero or below ?

[1. It is preferable to have the hive-entrances ⅝-inch high, and the whole width of the hive.

2. It would be as well to allow the snow to cover the entire hive, for protection against the cold.—ED.]

The Season of 1887.—Clarkson Pemberton, Lamoille, ⊙ Iowa, on Jan. 16, 1888, writes :

I had 26 colonies of bees, spring count, but as the honey crop was very short, I obtained only 200 pounds, and that was all from basswood. White clover was a failure in this part of Iowa. Bees did very poorly in swarming ; I had only 4 or 5 swarms the past summer. I think that all of my bees have honey enough for the winter. I like the BEE JOURNAL very much ; I could not do without it.

Cold Weather for Bees.—John W. Blodget, Flag Springs, ☌ Mo., on Jan. 16, 1888, writes :

The bees are going through the coldest spell that I ever saw in this country. On Jan. 13 the thermometer registered 14° below zero ; on Jan. 14, 12° below ; on Jan. 15, 26° below—the coldest that I have seen for 20 years, or over. I should think that bees in single-walled hives would freeze if ever bees freeze. I would like to see Mr. Doolittle throw bees on the snow with the mercury at 26° below zero, and then bring them to life again.

The snow is from 4 to 6 inches deep on a level, and the east and west lanes are drifted badly, being almost impassable. I think that the snow will protect the white clover from winter-killing. The only trouble is, that the ground being frozen, the water from the snow cannot get into the ground, and will all run off into the streams, and thus leave the ground as dry as ever ; if so, we will have to depend upon spring rains to raise a crop of honey or vegetables. I welcome the weekly visits of the valuable BEE JOURNAL every Thursday.

Bees in Good Condition.—John K. Rich, Cato, ⊙ N. Y., on Jan. 10, 1888, writes :

Last spring I had 17 colonies of bees, of which I sold one, and increased the remainder to 26 colonies. I sold one colony in the fall, and put 13 into the cellar ; the rest are on the summer stands, packed with planer shavings. I took nearly 800 pounds of honey, the most of which was comb honey, being a yield of about 32 pounds per colony, of basswood ; the balance was buckwheat and golden-rod. All of my bees are in good condition, and are wintering well.

Syrio-Albino Bees, etc.—E. F. Meeker, Duncan, ⊙ Ills., on Jan. 12, 1888, says :

I commenced the past season with 120 colonies of bees, and I now have 138 colonies in the cellar. I did not take over 400 pounds of honey. The Syrian bees were far ahead of the other races the past season. I have them crossed with the Albinos, and I find that they are not bad to handle. I would like to hear from others, as to which of the races did the best the past season.

Golden-Rod and Aster Honey.—Abner Pieket, Nassagaweya, Ont., on Jan. 9, 1888, writes :

I enjoy the weekly visits of the BEE JOURNAL very much. I am very fond of the bee-business. I commenced the past season with 91 colonies, increased them to 126 colonies, and have taken 4,200 pounds of extracted honey. The season became so dry that they could not get any honey until golden-rod and asters bloomed, then the bees filled up the hives very fast. I did not have to feed any, and I have them all in a wintering-house. They seem to be doing well. The temperature ranges from 40° to 44°.

Determined to Persevere, etc.—Edw. Margileth, Mt. Carroll, ☌ Ills., on Jan. 16, 1888, says :

The BEE JOURNAL has been a constant source of interest as well as profit to me ever since I started in apiculture, which was in 1883, when I commenced with 2 colonies of hybrid bees. I am wintering 29 colonies in a cellar

at a temperature of from 45° to 38°, according to changes of the weather, and I am quite confident that the bees will winter all right. Notwithstanding the poor honey crop last year (I realized only about 300 pounds of comb honey from 27 colonies), I shall still persevere, hoping for better results.

Surplus Crate for Reversible Hive.—E. D. Keeney, Arcade, N. Y., on Jan. 8, 1888, asks:

1. Will Mr. Heddon please tell the readers of the BEE JOURNAL which kind of surplus crate he would use on his new hive, to get the most marketable comb honey, one year with another? The expense of the different kinds of crates is not to be considered. 2. Also, when bees are placed on the summer stands in the Heddon hive, in one section (packed to keep them warm), and they become populous and crowded, would he place the second section on top, or unpack and place the second section underneath? Which, in his estimation, would give the better result in breeding?

[1. I would use my reversible wide-frame and tin-separator surplus case, with the screw pressure, and reversible wide-frames, every time, in preference to any other style of case, where the matter of expense is not of great importance.

2. If your bees are "packed" at the time of year when a second brood-case will be needed, I do not care whether you put it above or below. If not packed, put it below, because it encourages the queen to renewed activity equal to spreading brood; and yet it does not spread the brood, but keeps it in the warmest part of the brood-chamber.—JAMES HEDDON.]

Cellar-Wintering of Bees.—G. W. Ogden, DeKalb, Mo., on Jan. 4, 1887, writes:

On April 20, 1887, I had 6 colonies of bees, and by buying some colonies and building up others, I had 34 colonies, from which I obtained 300 pounds of honey; but in the fall I had to feed 200 lbs. of sugar before putting them into the cellar, and then they were light in stores, but they are doing well.

Much is said about cellar wintering, but not enough. A cellar that is too cold is worse than none, and one too warm is the same. It should be dry and well ventilated; the temperature should range between 40° and 50°; it ought to be made as dark as possible, and not visited more than once a week, to see that everything is all right. With a good light, any hive desired can be opened, with the temperature at 40°, and if necessary, proper care being used, syrup can be poured inside of the cover, and the cover then replaced. I have kept bees for 7 years, and what I knew about bees before last year I had gained by experience; but it was pretty expensive learning.

Honey Crop of Colorado.—J. M. Clark & Co., Denver, Colo., on Jan. 16, 1888, write:

The crop of honey in this State, last season, though not a full crop, was larger in proportion to the number of colonies kept, than in any other State.

Light Cellar for Bees.—H.S.Ball, Granby, Quebec, on Jan. 1888, says:

I live about 25 miles north of the State of Vermont, and for 15 years I have wintered from 25 to 60 colonies of bees without a single loss from other causes than starvation. I winter my bees in a common dwelling-house cellar, where more or less vegetables are kept. How is that for this cold climate? The bees usually remain in the cellar from Nov. 18 to April 15. But man is never fully satisfied, and so I think that bees would winter still better in a light cellar. We all know that a light cellar is healthier than a dark one, as a light room is. Will experienced bee-keepers please state their opinions and experiences in regard to wintering bees in a light cellar? For 2 months this winter I kept my bees in the cellar before darkening the windows, and they seemed to enjoy the light.

Bees Wintering Well.—C. A. Haines, East St. Louis, Ills., on Jan. 11, 1888, says:

I had 5 swarms and 1,000 pounds of comb honey from 45 colonies, spring count, the past season. My honey was all from fall flowers. Bees are wintering well on the summer stands. I could not get along without the BEE JOURNAL.

Poor Season in Louisiana.—Dr. D. R. Fox, Jesuit's Bend, La., on Jan. 11, 1888, writes:

Bees did nothing here the past year, having barely supported themselves. I have extracted no honey since Feb. 1, 1887, and scarcely had a swarm, being an unprecedented state of affairs in this vicinity; and I have been keeping bees here with much profit for 15 years.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lb. sections 18@20c.; 2-lbs., 16@18c.; dark 1-lbs. 17@18c.; 2-lbs. 15@16c. Extracted, is firm at 7@10c., depending upon the quality, and style of package. Dark, 2 or 3 cts. below above quotations. Receipts light and demand fair.

BEESWAX.—22@23c.

Dec. 20. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—Prices range from 18@20c. for the best grades, with light demand; 2-lb. sections, 15@16c. Dark is not wanted. Extracted is steady at 7@10c., according to style of package.

BEESWAX.—20@23c. R. A. BURNETT,

Dec. 7. 161 South Water St.

DETROIT.

HONEY.—Best white in 1-pound sections, 18@20c. Extracted, 9@10c. Demand brisk.

BEESWAX.—22@23c.

Jan. 20. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lbs. sections sell at 19@20 cts. Extracted 7@8c. Demand small and supply fair

BEESWAX.—22@25c.

Dec. 15 A. C. KENDEL, 115 Ontario St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 16@19c.; the same in 2-lbs., 14@16c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c. Market dull.

BEESWAX.—22@23c.

McCAUL & HILDRETH BROS.,

Jan. 20. 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote: Choice white 1-lbs., 18@20c.; dark, 16@18c.; choice white 2-lbs., 18c.; dark, 15 to 16c. Extracted, white, in 60-lb. tin cans, 9c.; in barrels, 8c.; dark, in barrels, 5@6c. California 2-lb. white comb, 18c.; dark, 16c. Extracted, white, in 60-lb. cans, 8@9c.; amber, 8c.

BEESWAX.—No. 1, 20c.; No. 2, 16@18c.

Dec. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—Choice comb, 18@20c.; latter price for choice white clover in good condition. Strained, in barrels, 5@6c. Extra fancy, and of bright color and in No. 1 packages, ¼-cent advance on above. Extracted, in bbls., 6½@7c.; in cans, 7 to 9 cents. Short crop indicates further advance in prices.

BEESWAX.—20c. for prime.

Dec. 19. D. G. TUTT & CO., Commercial St.

CINCINNATI

HONEY.—We quote extracted at 4@9c. per lb. Choice comb, 16@20c., in the jobbing way. The demand for extracted exceeds arrivals, and for comb the demand is tame.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Dec. 12. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17@19c.; fancy 2-lbs., 15@16c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Extracted, white, 9@10c.; buckwheat, 6@7c.

Demand has slackened some, and to make sales we must shade above prices. About Jan. 15 we expect a more active demand.

Dec. 31. F. G. STROHMEYER & CO., 122 Water St.

PHILADELPHIA.

HONEY.—Fancy white 1-lbs., 18@19c.; fair 1-lbs 17c.; dark 1-lbs. are slow sale at 14@15c.; fancy 2-lbs., white, 15@16c.; buckwheat fancy 1-lbs., 13@14 cts.; common, 12c. Prices tend downward.

BEESWAX.—23@24c.

Dec. 11. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lbs., 20c.; fair, 19@20c.; 2-lbs., 18@19c.; 3-lbs., 16@18c. White extracted in kegs or half-barrels, 9½@9¾c.; in pails or cans, 9½ to 10c.; amber, in ½-barrels, 9¼@9½c.; dark in kegs and barrels, 7@7½c. Demand good, supply fair.

BEESWAX.—22@25c.

Dec. 15. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 10@13c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.

BEESWAX.—20@24c.

Jan. 14. SCHACHT & LEMCKE, 122-124 Davis St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@15c. Extracted, 8@9c. The market is not very brisk and sales are slow.

BEESWAX.—25 cts. per lb.

Jan. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts.; dark 1-lbs., 15@16c. White extracted, 7@8c.; dark 5@6c. Demand is light.

BEESWAX.—21 to 22c.

Jan. 10. HAMBLIN & BEARSS, 514 Walnut St.

DENVER.

HONEY.—Best white 1-lb. sections, 19@20c.; 2-lb. sections, 16@18c. Extracted, fineat grade, 12½c.; dark, 8@9c.

BEESWAX.—20@23c.

Jan. 16. J. M. CLARK & CO., 1409 Fifteenth St.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Feb. 1, 1888. No. 5.

EDITORIAL BUZZINGS.

Buzz, Buzz, Buzz!
From morning's first gray light,
Till fading of daylight,
It's singing and toiling
The summer day through.
Oh! we may get weary,
And think work is dreary;
'Tis harder by far
To have nothing to do.
—*St. Nicholas.*

Mr. R. J. Kendall, whose many articles appeared in the AMERICAN BEE JOURNAL three years ago, is now in New Zealand.

Deep Snow is reported in all the New England States and Canada. Michigan, too, is reported to have snow 2 feet deep on the level, with the temperature at from zero to 16° below.

Best for Advertising.—Mr. Geo. E. Hilton, of Fremont, Mich., on Jan. 26, made this assertion, about advertising:

My pamphlets are going off like hot cakes. I am advertising in several periodicals, but the AMERICAN BEE JOURNAL has brought me more responses, so far, than all other sources combined! Long may it live.

Honey Vinegar.—A correspondent in the *Bee-Keepers' Magazine* tells what to do with dark fall honey, and make it of cash value, thus:

I had about 40 pounds of nice fall honey, so I asked a store-keeper what he was paying for such kind. He said 3 cents a pound, but I refused to sell, and took my honey home, put it in two 45-gallon barrels, and put boiling hot rain water with it. When it cooled off I put some vinegar "mother" in each barrel, and in the summer, I sold 90 gallons of the best vinegar that was in the county, at 16 cents per gallon. I paid my tax with it.

At the St. Louis Fair, held last fall, the premiums amounted to $140, besides the diplomas awarded. These exhibitors obtained all the awards: William Kimble, DeWitt, Iowa, $58; R. Grinsell, Baden, Mo., $43; Dr. G. Leibrock & Sons, $39; and Simon Moser, Bridgeton, Mo., $1. It certainly paid the three first-named exhibitors to make a show of their bees and honey. They also obtained many premiums at other Fairs and Exhibitions in the West.

The Apiculturist is here in good time. The February number was on our desk on Dec. 27, and it is full of good matter on "bees," and for their "keepers."

The Year 1888 promises to be eventful. Five eclipses will occur—three of the sun and two of the moon; the first of which was a total eclipse of the moon on Jan. 28. It also gives five Wednesdays in February, being leap-year, consequently there will be five issues of the AMERICAN BEE JOURNAL in the shortest month of the year. It is only once in four years when there is more than just four weeks in the month, and the first and last days may not come on Wednesday for half a century.

Bees and Ants as Food.—An exchange says that the Cingalese (natives of Ceylon), eat the bees after robbing them of their honey. Caterpillars and spiders are dainties to the African bushmeo. Ants are eaten by various nations. In Brazil they are served with a resinous sauce, and in Africa they are stewed with grease or butter. The East Indies catch them in pits and carefully wash them in handfuls, like raisins. In Siam a curry of ant eggs is a costly luxury.

The Little Son of Dr. A. B. Mason is very ill, and the Doctor writes us that he has not had his "clothes off for six days and nights." We are much pleased to learn that he is a little better now, with prospects for recovery. The Doctor and his family have our sympathies.

"The Bee-Keepers' Advance and Poultryman's Journal" is the title assumed by Brother J. B. Mason, in the second volume. The January number is just at hand. It is enlarged to 20 pages, and looks well.

Convention Number—that is what the next issue of the BEE JOURNAL will be. We already have the reports of the proceedings of four conventions waiting, and we shall give nearly all our space to them next week.

Volume II of "Bees and Bee-Keeping," by Mr. Frank R. Cheshire, is published. As soon as we receive a copy we shall give a review of it.

Giving Credit for Selections.—On page 611 of the BEE JOURNAL for last year, we called attention to a chapter from our pamphlet, "Honey as Food and Medicine," being copied into several papers, credited to the *Farmer and Dairyman*, and signed Thos. Brasel, Portland, Oreg. In the last issue of that paper, Mr. Brasel makes an apology in these words:

I was surprised myself when I read the above notice; it was the first intimation I had of not giving Mr. Newman credit for his articles, and, of course, it was unintentional neglect on my part, and I think it was the first time I neglected to do so.

In past years I had furnished the *Farmer and Dairyman* several articles for publication, in which were occasional quotations from Mr. Newman's pamphlet, "Honey as Food and Medicine," and my only object in doing so was to inform the people all I could on the good qualities of honey as food and medicine.

We are always glad to have our articles copied by other papers when due credit is given, and we are glad to learn that the omission in this case was unintentional.

This is the Time for reading. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books, and can fill all orders on the day they are received.

Bees Flying.—In answer to the question, "At what temperature do bees fly?" the editor of *Gleanings in Bee-Culture* remarks thus in its issue for Jan. 15, 1888:

I know exactly, for I have just been out this 6th day of January, and watched the bees which were pouring out of the hives in different directions. As the sun did not shine at all, and there was no wind, I had an opportunity of getting a pretty fair test. A few started out when the thermometer stood at 50°, but there was not a general flight until it stood at about 55°. Had there been sunshine it would have made a vast difference; but as it was, they flew from entrances pointing to the north just as freely as if they were facing the south.

The Ohio Convention.—We expect to publish the report of its proceedings next week. In *Gleanings*, Brother Root remarks as follows concerning one well-known to our readers:

Dr. G. L. Tinker, of New Philadelphia, also contributed much of value to our meeting. The Doctor is not only a bee-keeper, but he is one of the finest workers, both in wood and metal, that we have in our State. He exhibited some beautiful samples of cases for sections, honey-boards, perforated zinc of his own manufacture, etc. Dr. Tinker is a firm advocate of sections open at the sides as well as top and bottom.

Poor Seasons and Hard Winters are an injury, but poor seasons come to nearly every business. In calculating the profits of bee-keeping, we must make allowance, for poor seasons, and a loss in winter occasionally. After making this allowance the experience of those who put energy and push into their efforts, shows as good profits are are usually obtained in any other rural pursuits.—*Exchange.*

GLEANS OF NEWS.

Bogus Butter in England.—The following cable dispatch will show how Englishmen view the adulteration of food products:

LONDON, Jan. 23.—The law passed at the last session of Parliament, relating to the fraudulent sale of oleomargarine, went into effect to-day.

For the first offense the minimum fine is $100, second conviction a fine of $250, and third conviction $500. The law provides that every package of oleomargarine shall be branded with the word upon the top, bottom and sides.

Retail dealers selling small quantities are required to deliver it to the purchaser in paper wrappers, on which the word "margarine" shall be printed in capital letters not less than a quarter of an inch square.

In case of doubt, where adulterated butter is exposed or sold, the act prescribes that the presumption of fraud shall be against the seller, unless he can prove that he bought the substance as butter, and holds a written warranty or invoice to that effect.

Similar restrictions should be enforced by law upon all adulteration of food products in America. We are glad to see that the United States Congress are wrestling with this subject now.

Foul Brood is very prevalent in Australia, as will be seen from the following from the *Australasian Bee Journal* for December, which has just come to hand:

In almost every district, from one end of the Australasian Colonies to the other, that scourge of the bee-keeping industry, foul brood, exists. Eight years ago it was only known to be in a very few widely-separated districts, and clean, healthy colonies were then the rule. The disease has spread to an alarming extent during the past few years, thousands of colonies have perished, and some districts have become so infected with it that it is only with the greatest vigilance and perseverance that bee-keeping, even on a small scale, can be carried on at all in them. Very few apiaries, indeed, can boast of being entirely free from the disease at the present time. It is now a matter of so serious a nature, in fact, that unless some thorough-going steps are taken very shortly to stamp out the pest, the bee-keeping industry in these colonies will soon become a matter of history. Hundreds of people have been compelled to give up keeping bees at considerable loss to themselves, owing to their inability to conquer the enemy, and many who looked to honey-production as a means of livelihood, or to augment their small means, have been sadly disappointed by their bees dying off.

Honey-Dew for Winter Stores.—In the Michigan *Farmer* we find the following item which explains itself:

As illustrating the vicissitudes of bee-keeping, Mr. S. Corneil, of Lindsay, Ont., had 212 colonies of bees which he put into winter quarters in the fall of 1886. Unhappily, the bees had stored honey-dew, and all that had laid in winter stores of this, largely succumed "to the inevitable." In June of of the following year, he had but 58 colonies remaining. Mr. Corneil now strongly advises extracting honey-dew, and feeding sugar syrup.

Alfalfa or Lucerne.—A correspondent wants us to answer the following questions about alfalfa or lucerne clover:

What is the best time of the year for sowing it? How much seed is required to the acre? What soil does it require? How many pounds are there in a bushel?

In reply we would say that lucerne or alfalfa (*Medicago sativa*) was introduced into the Pacific States from Chili, many years ago. It resists the driest weather, and it is said that when every blade of grass droops for want of moisture, it holds up fresh and green.

The hay is valuable for cattle, but as it is cut for this purpose early, that lessens its value for honey.

The seed should be scattered plentifully in the winter months, so that it may settle

Alfalfa or Lucerne.

nto the soil with the spring rains and germinate. It will grow on any soil; there are 60 pounds to the bushel, and 25 pounds to the acre will be sufficient. It is said that this valuable grass was brought into Greece from Persia nearly five hundred years before the Christian era. It came to California from Chili, but it is now largely cultivated in England, France, and other parts of Europe, and gives satisfaction as a forage plant.

Alfalfa will be a prominent crop in all places where the winters are not too severe. The power to withstand great heat and dryness comes from the long, searching taproots, which are sent deeply down into the soil and find moisture which is inaccessible to other less energetic vegetation.

Pear Honey and pear cider in Switzerland are often found, and a Swiss correspondent from Parkville, Mo., has sent us the following concerning its manufacture:

I was born in Switzerland in 1837, and was partly raised there. I have no doubt whatever about honey in my native land being *just as pure* as we have it here. But "pear honey" is just as pure as such, and that it is frequently (though not extensively) made is a fact to which I can certify, for I have made it myself.

Pear cider is much more frequently made in Switzerland than apple cider. That, at least, was the case when I lived there. This cider is boiled down with fine sugar until it is of the consistency of honey, and put away in jars for special occasions. It has the full flavor of the fruit, and is a delicious "honey."

If there is any wrong in calling it "honey," it is a wrong without malice, and therefore not to be likened unto the "Wiley lie."

It is a misnomer to call it "honey," but no worse than to call apple butter, "butter," when it is in no wise butter. What we said about "Swiss honey," on page 819 of last year's BEE JOURNAL, only had reference to the real article or an adulteration of it.

The Scandalous Wiley Lie in New Zealand. The *Australasian Bee Journal* copied an article on glucose from *Harper's Monthly*, in which the author says that it is "much used by confectioners and brewers, *as food for bees*, in making *artificial honey*, but most of all for the production of table syrups. It then adds:

The passage which I have put in italics smacks very strongly of the famous "Wiley" scandal, and owes its origin no doubt to the same source, as the writer, in a note at the end of his paper, acknowledges his indebtedness for some of the materials, to "Prof. H. W. Wiley, of the Agricultural Department." The defense of the quality of glucose is not a very convincing one. To say that it is *probably not unhealthy* is certainly a mild way of putting it. It may not follow that *it must be poisonous* on account of the quantity of sulphuric acid used in its formation, but the process is not a very appetizing one, especially when we know that the glucose can be extracted in this way not only from corn and potatoes, but even from old linen or cotton rags, or any refuse containing starch of vegetable origin. Those who prefer such stuff to pure honey, even though the latter should cost many times as much, are scarcely to be congratulated on their taste.

Frightening Bees with Carbolic Acid Vapor is more effective if properly applied than smoke; in the case of straw-skeps it is the same. I have frequently advised bee-keepers not to pump the fumes into the hives; but many do not seem satisfied unless they can "go at" their smokers or fumigators as though they were pumpers on a fire engine when the word is passed, "Down with her." You simply want to breathe, if I may use the expression, with the fumigator at about the rate that you breathe yourself, shifting it about to drive the bees back. The air passed out of the fumigator must be thoroughly impregnated with carbolic acid vapor, and must pass over the sponge at least twice to be thoroughly effective. I have driven hundreds of straw-skeps with the fumigator both in private and in the bee-tent, and have not used smoke in my apiary for two seasons.—*British Bee Journal.*

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00,

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

IGNORANT PREJUDICE.

Several times during last year we made reference to the ignorant prejudice of the neighbors of Mr. Z. A. Clark, at Arkadelphia, Ark. His bees, on account of the drouth last summer, worked on the juice exuding from decaying peaches. Thereupon these same prejudiced individuals spread the "howl" that "Clark's bees are eating up the peaches." One ignoramus went so far as to declare that the bees ate up his "young ducks!"

Thereupon the City Council ordered the removal of the bees by June 6, and Mr. Clark was arrested for maintaining a nuisance by keeping his bees within the city limits, and ordered to remove them.

The Bee-Keepers' Union promised to help him defend his rights, and see the matter through, for it would be very detrimental to the pursuit to allow a decision against bee-keeping to be put npon record on the plea of its being a "nuisance."

Major J. L. Witherspoon, ex-Attorney General of Arkansas (who stands at the head of the Bar of the State), was employed to attend to the matter on behalf of the bees.

The case is now going to the Supreme Court on an appeal, and the Hon. S. W. Williams, of Little Rock, has been engaged to assist in defending Mr. Clark, who wrote us the following particulars last week:

I was arrested on Jan. 2, 1888, by order of the Mayor for maintaining a nuisance within the city limits, in keeping my bees there.

I think with the evidence we have, with Mr. Williams in the case, we will undoubtedly win. Now is the time for us to make this thing "hot," as it will affect the welfare of every bee-keeper that is so unfortunate as to live in an incorporated city or village.

I think that we should have two or three good lawyers in this case, as it will be a great blessing to bee-keepers in incorporated cities and towns for us to gain this suit. If we should lose it, we will all have to "get out" all over the United States. "In the multitude of counsel there is wisdom."

I shall have to sacrifice my time, business and bees in order to attend to this case of appeal. It will cost over $300 to appeal it, and I am too poor to pay any more than I have already done in the expenses of the lower court, and for my attorney here. I must, therefore, appeal for help, through the Bee-Keepers' Union, to all the bee-keepers of America.

I am not able to carry on this suit and do justice to myself and family. I think justice to bee-keepers demands that this law be defeated, and not let us go before the world as a class of men that carry on a business that is "a nuisance." we will have to get affidavits from bee-keepers living all over the United States, stating whether bee-keeping is "a nuisance" or not. We have been condemned, but not by men that know anything about bee-keeping. If any one can give me advice, he will please write to me.

Z. A. Clark.

We have repeatedly requested bee-keepers to join the Union, and thereby place it in a position to defend them in such cases as the above, and unless some hundreds at least do so *at once*, the Union will not be able to lift up a "successful standard" against the enemy. Reader, what say you about this? Will you become a member? The dues are now only one dollar!

Queries & Replies.

MOVING BEES IN WINTER BY SLEIGH OR RAILROAD.

Written for the American Bee Journal

Query 511.—Will you kindly advise me as to the best time, and way, to move 12 colonies of bees that are packed in hives, with old combs in Langstroth size, closed-end frames? I want to move them on a sleigh three miles, over pretty rough roads, and then 17 miles by railroad, and then again 2 miles by sleigh. Do you think it advisable to move them in this way; or do you think it better to move them the whole way by sleigh? If I move them all the way by sleigh, after the first 3 miles the road is pretty good.—New York.

Move them all the way in a sleigh.—Mrs. L. Harrison.

I would wait until spring, if possible; if not, move them all the way by sleigh.—W. Z. Hutchinson.

I do not like to move bees so far in the winter; but if obliged to, I would use the sleigh all the way.—A. B. Mason.

I would wait until April or May, and move them in a spring-wagon either all the way, or partly by rail.—M. Mahin.

If you cannot wait until spring, I believe I would as soon risk taking them all the way in the sleigh.—C. C. Miller.

I should move them all the way by sleigh, by all means, if I moved them on snow. But why not wait until May, and then move them. I think that this would be better.—G. M. Doolittle.

As I understand the question, I would pack them in straw, secure them to the sleigh, and make the whole journey with the sleigh.—H. D. Cutting.

I should much prefer not to move them until April. If you must move them now, put a thick cushion of hay or straw on a sleigh, and move them all the way on it.—R. L. Taylor.

We would keep them on the sleigh, although it does not make a very great difference. But why do you not wait until the proper time—March—and move them on a wagon? It is far safer.—Dadant & Son.

I would arrange the time to suit my convenience, and the condition of the roads. I would prefer a sleigh. If the frames are well propolized, they need no extra preparation, only give plenty of ventilation by tacking wire-cloth over the entrance, and place them securely in the sleigh, with the frames running parallel with the road.—J. P. H. Brown.

The best time to move them is when they can fly freely, immediately upon arrival; but it is not usually good sleighing at that time. We make no preference between all the way by sleigh, or cars and sleigh. Do not be afraid to give them lots of ventilation, no matter how cold the weather is.—James Heddon.

I would not advise moving the bees on the cars in cold weather; but they can be moved by sleigh.—G. L. Tinker.

I would consider it very risky to move them so far before spring. I would get two spring wagons, load them with the frames crosswise of the bed, and make the one time handling do, by driving them through in one day. You should tack screen-wire over the entrances, to give sufficient ventilation, and they should have a flight the day following.—J. M. Hambaugh.

Move the whole distance by sleigh. Put the hives on straw in the bottom of the sleigh, then pack in the sleigh so the hives will not interfere with each other, or with the sleigh, in transit. Drive carefully, and where the roads are rough, with extra care.—J. M. Shuck.

I should move them the whole distance with a sleigh, if the road is fairly good. They may go all right by rail, but the risk of changes is great, and can be avoided by moving at one job. The frames should be securely fastened in the hives, and ample ventilation given. It is not safe to move bees such a distance in the winter, in any case.—J. E. Pond.

I should prefer to wait until spring; though I have known so many cases of bees being moved in mid-winter with entire success, that I should expect success even though I moved them now. I think that I should use the sleigh all the way. It would be cheaper, doubtless, and fully as well for the bees. Use plenty of straw, and disturb the bees as little as possible.—A. J. Cook.

I dislike very much to disturb bees in cold weather, and I should prefer to wait until spring. If it is necessary, however, to remove them now, choose a moderate day, and I should prefer to move them all the way by sleigh. As there are only 12 hives, and the distance is only a reasonable day's drive; one load would take them nicely, and you would be done with it. Fasten in the bees with wire-cloth, even in cold weather while removing them, and if carefully handled there is little danger.—C. H. Dibbern.

I would move them the whole way while they were on the sleigh. I have moved bees in this way several times with perfect safety. Your close-end frames will stay in place without any wedging up. A friend of mine moved 100 colonies 40 miles in four loads, on a large spring-wagon. Not a comb was broken. Another time the same man hauled 50 colonies in Langstroth

hives, on a common farm wagon, on which he had a long hay-rack. We move them at any time in the fall, winter or spring. Perhaps towards spring would be the best in your climate, where bees do not have the opportunity to fly as often as they do here.—G. W. DEMAREE.

The combs are very brittle now, and it is dangerous to move bees at this season on account of the liability of breaking down the combs. The hives must be handled with care, and should only be handled at each end of the route—therefore a sleigh-ride all the way is better than part railroad. If they must be moved now, instead of in March, secure the frames, and load on the sleigh, so that the frames cross the road bed, and let them be very carefully driven, especially over the rough part of the road.—THE EDITOR.

WINTER FLIGHTS FOR BEES IN A CELLAR.

Written for the American Bee Journal

Query 512.—Should bees be taken from the cellar on a warm day during winter, so that they can have a flight? My cellar opens into the kitchen, and it is hard work to take them up and down the steps; but if it is necessary to take them out occasionally, I will do it. I fear that the cellar is too warm a part of the time, and there is no good chance to ventilate it. The temperature varies from 44° to 48°, but the bees seem quiet the most of the time.—Indiana.

No; let them remain where they are. —JAMES HEDDON.

Do not take them out.—DADANT & SON.

Not if they are as quiet as you say. —A. B. MASON.

Let the bees alone until spring, would be my advice.—G.M.DOOLITTLE.

Do not take them out. The temperature is all right.—W. Z. HUTCHINSON.

I would make every exertion to keep the cellar at an even temperature; and if the bees are quiet, I would not disturb them.—J. P. H. BROWN.

No, not at all. The temperature of your cellar is fairly good, and your bees are undoubtedly in as good condition as possible.—R. L. TAYLOR.

I have no experience with cellar-wintering, but I would not disturb them unless they are very restless, and show signs of disease.—M. MAHIN.

If they are quiet, let them alone; do not interrupt if all is well. If uneasy, let the circumstances suggest the change to be made.—J. M. SHUCK.

Not unless they are noisy and restless, showing diarrhetic symptoms, by discharging their feces around the entrance and over their combs. Give them ventilation if possible, and keep the temperature from 40° to 45°, Fahr. —J. M. HAMBAUGH.

The conditions must govern in all cases. If they are quiet and show no signs of disease, let them alone until you are ready to put them out in April. I think that the temperature is too high, at 48°.—H. D. CUTTING.

So long as the bees are quiet, I certainly should not disturb them. I do not give my bees any flight from the time they are taken in until they are taken out to stay in the spring.—C. C. MILLER.

I have never wintered bees in a cellar, but judging from my reading of experiments of this nature, I should prefer not to give them a flight. It may do no harm, and may so disturb them as to cause great loss.—J.E.POND.

They should not be taken out. The temperature is about right. If the bees get uneasy, later in the season, give them water. The temperature can be lowered if thought necessary, by placing some cakes of ice in the cellar. Another season put in sub-earth ventilation.—MRS. L. HARRISON.

Bees do not require to be removed from a good cellar for a flight during the winter, as long as they remain reasonably quiet. Indeed, I think it a disadvantage to do so, as it has a tendency to make them restless afterward. As long as the temperature can be kept below 50°, the bees are better off in a cellar than anywhere else. I have had bees confined for over five months, with no bad results —C. H. DIBBERN.

By no means. If you have a cellar where you can keep the temperature between 36° and 48° Fahr., and the bees have good food, they are all right. I do not carry my bees out until April. Should the bees become very uneasy, and by change of ventilation and temperature I could not quiet them, I should carry them out if a warm day came. I never expect, however, any such experience.—A. J. COOK.

As long as the bees remain quiet and healthy in the cellar, they may be left alone until April. Still the colonies will do better to take them out about March 1, and pack them on the summer stands. They will be less liable to spring dwindle, and will build up into strong colonies at least two weeks ahead of colonies put out of the cellar in April. It does no harm to remove the bees from the cellar at any time in the winter on suitable days, and return them after a flight, or pack them.—G. L. TINKER.

As long as they remain quiet, they will not suffer for a flight. I have kept a small colony in my office all winter, where there is a summer temperature kept up in the daytime, and the temperature goes down below the freezing point when the nights are cold. They are in excellent health now (Jan. 20). I have another small colony that is kept in a vegetable and fruit cellar, at a temperature a little above the freezing point, during cold weather. The colony is moved into the office once in about ten days, where they are "warmed up" till they ventilate with a "loud roar" as in summer time. After their day's exercise, they are returned to the cellar. They are also in fine health. I am very much interested in these experiments.—G. W. DEMAREE.

As the bees are quiet in the cellar they are not diseased, and may with safety remain undisturbed until the spring comes. Keep the temperature as even as possible.—THE EDITOR.

BEE CONVENTIONS.

Wisconsin State Convention.

The bee-keepers of Wisconsin meet in their fourth annual convention, at the Capitol in Madison, Feb. 8, 1888.

In consequence of the State Agricultural Convention being held in the same week, with its usually interesting essays, speeches, papers and discussions, the bee-convention will probably last but one day. Reduced rates can be secured on all railroads, thereby making the expense much less, and giving those who wish to do so, a chance to attend both conventions.

The following is the programme for the convention:

President's Address, C. A. Hatch, Ithaca
Notes from American Bee-Keepers' Convention, Frank Wilcox, Mauston.
Relation of Producer to the Commission Merchant, A. V. Bishop, Commission Merchant, Milwaukee.
The Heddon Hive and How to Use it, W. H. Putnam, River Falls.
How to Build a Bee-Cellar, D. D. Danlher, Madison.
How to Get the Best Extracted Honey, E. France, Platteville.
Comb or Extracted Honey; Which? F. Minnick, North Freedom.
C. A. Hatch, President, Ithaca, Wis.
Frank Wilcox, Secretary, Mauston, Wis.

CONVENTION NOTICES.

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Stark County Bee-Keepers' Society will be held in Grange Hall at Canton, O., on Feb. 4, 1888. A full attendance is desired, as business of importance will be considered.
MARK THOMSON, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

CORRESPONDENCE.

HONEY-PLANTS.

Insuring Bees—Honey-Plants of Minnesota.

Written for the American Bee Journal
BY J. M. DOUDNA.

On page 8, Mr. A. C. Waldron asks if any one has had experience in insuring bees against fire while in the cellar. I have had mine so insured for some years in the Minnesota Farmers' Mutual, of Minneapolis.

Linden and White Clover.

Linden is our only dependence for surplus honey. It has never failed, to my knowledge, and there are not bees enough kept in this county to gather a hundredth part of it.

White clover is now to be found in many places, but we have no old pasture fields, as in the East. Some years ago I bought a few pounds of white clover seed, and scattered it in such places as it would be likely to grow. I did this for several years, and got a few pounds of clover honey in 1886. It did not yield any surplus in 1887, owing to the drouth, but I think we will soon get a good return for the money invested. I was not as successful with sweet clover, as it does not get started along the roads at all.

Various Honey-Plants.

Motherwort promises to be the best honey-plant of all. It commenced to bloom on June 12, 1887, and the bees worked on it until frost. The bees did not leave it for linden. I found a few plants two years ago, and saved the seed, and now have a half peck to sow in the spring.

For pollen I have never seen anything equal to asparagus. Does it yield any honey? Golden-rod has never amounted to much as a honey-plant here. The bees scarcely notice the plenrisy-root, though there is plenty of it.

I tried the spider-plant, but I could not get it to grow, except from plants raised in a hot-bed. The Simpson honey-plant (figwort) soon runs out. The Chapman honey-plant is not hardy in this climate; the first severe freeze killed every leaf, and the root appeared to be dead before the middle of November.

Moths and Italian Bees.

What has become of the bee-moth? I have not seen one for two years. There was plenty of them before I had the Italian bees. I have several hundred surplus combs, and I have never fumigated them, but hang them on nails driven in the rafters in the shop; but not a moth has appeared for the last two years.

I made a solar wax-extractor that is as near perfection as I could wish. I made it from the directions given by Mr. Demaree, on page 501 of the AMERICAN BEE JOURNAL for 1886.

Good Location for Bee-Keeping.

The bees appear to be wintering very well with the mercury at 44° in the cellar. The thermometer showed only a variation of 3° in the cellar during the late blizzard.

To any one seeking a location for an apiary, I know of no better place than this county. Land is cheap and good, with plenty of raspberry and linden, and as soon as clover is well started, it will fill the time between them. Good returns are sure to follow good management. Some of the best towns in this region have scarcely a colony of bees in them. But this is no climate for "fence-corner bee-keepers."

Alexandria, Minn., Jan. 20, 1888.

CALIFORNIA.

Keeping Bees on the High Mountains.

Written for the American Bee Journal
BY G. W. COVER.

After the advent of the honey-bee to this State, the absconding swarms went to the Sierras. In a few years they were gathering nectar from the flowers on every hillside, from the valley of dates, figs and oranges, to the snow-manteled summits of the Sierra Nevadas; away among the lakes, at the extreme limits of the timber belt, and in the gorges and canyons, is the hum of the busy bee heard. The writer has frequently found them at work where one could stand with one foot in a snow bank, and the other in a bed of flowers, in August.

I commenced bee-keeping at an elevation of about 4,000 feet above sea-level. The bees swarmed and did well. The mountains was still higher on either side, as I was in the canyon of the Yuba. The honey-flow is later as one ascends. I thought that I would move up a thousand feet higher, so the bees could work down in the spring, and they would have 1,000 or 2,000 feet above them later on. The trouble is, I cannot get any swarms at this elevation, something over 5,000 feet. I have been here about five years, and have not had swarms enough to keep up my stock. Bees swarm more below me, at 3,000 feet, and under that they swarm to excess, and all absconding swarms invariably go for the higher mountains.

The honey crop failed here for the first time in 14 years; there were no swarms and no honey the past year. Let us hear what has been the experience of other bee-keepers in regard to elevation, and what effect it has had upon swarming. I have tried box-hives, and the bees would not swarm from them.

Downieville, Calif., Jan. 2, 1888.

BEE-KEEPING.

Report of the Work and the Results in the Apiary.

Written for the American Bee Journal
BY J. M. YOUNG.

In looking over the pages of the AMERICAN BEE JOURNAL, I am glad to note quite an improvement in the paper since last year. It is undoubtedly the best work published on apiculture. Every bee-keeper should read it.

Bees throughout this portion of the State did fairly up to the close of the basswood bloom, however only a fair surplus was stored from that source. Since that time only enough was obtained by the bees to make a fair living for them. I fear that a large number of colonies will be lost in this county, from starvation, long before spring. Apiaries that were well cared for during the last summer, will come out all right.

My report for the season of 1887 is far from being a good one, and is not encouraging, by any means. From 76 colonies, spring count, upwards of 1,700 pounds of honey, including both comb and extracted, was obtained; only about 20 colonies were worked for extracted honey, with two sets of combs. The remainder of the apiary was worked for comb honey throughout.

I put into winter quarters 96 strong colonies, with plenty of honey to last them until honey comes again; 75 colonies were packed in a summer-and-winter chaff hive, with the upper story filled with dry leaves and chaff. A portion of the hives are now entirely covered with snow; the remainder of the hives are about half-covered. Just as long as it stays cold I have no fears about their wintering all right. I am not going to disturb them until the weather begins to get warmer, and the snow begins to melt.

One or two days the last week the mercury was as low as 25° below zero; the average temperature for the week being at zero. With this temperature of the weather very long, I presume that bees wintered in single-walled hives will suffer badly.

Rock Bluffs, Nebr., Jan. 18, 1888.

CANADA.

Annual Meeting of the Ontario Bee-Keepers' Association.

Written for the American Bee Journal
BY R. F. HOLTERMANN.

The Ontario Bee-Keepers' Association met at Woodstock, Ont., on Jan. 10, 1888, at 2 p.m., the President, Mr. S. T. Pettit, being in the chair.

Mr. Malcolm read an essay entitled,

The Production of Extracted Honey.

Next to the movable frame no invention has done so much to increase the production of honey as the extractor. When it was found that combs could be lifted from the hive, emptied of their contents, replaced, and refilled, a stimulus was given to bee-keeping that the most enthusiastic never dreamed of. But much of this enthusiasm was based on theory. How simple it looked. Bees are easily wintered, honey is easily gathered, and if we can empty the combs just when we please, what is to hinder any one from making money by keeping bees. But hundreds, and I may say thousands, have found theory and practice two very different things when applied to bee-keeping.

Still bee-keeping has a future, and men and women will succeed in gathering the sweets of nature in large quantities to the benefit of themselves and the good of the public, and from anything we can see at present, honey in the extracted form will take the lead as regards the quantity, by large proportions. It is therefore important that the producer should understand the means of securing his crop in the highest degree of perfection.

As far as quantity is concerned, I am at a loss to know what to advise, so much depends upon the conditions, especially as regards the strength of the colonies, favorable weather, and the amount of nectar. Many of the most experieneed apiarists fail in regard to the first, and the last two are beyond human control. But with all these conditions favorable, we do claim to know something. In fact, I have said in conversations and through the press, that if there was any one thing I knew, if there was any one thing I could cordially recommend, if there was one item of advice I could give with pleasure, it is, *do not extract honey till it is ripe.* And yet, strange as it may seem, there are men who know much more about bees than I do, who say this is not necessary, that honey can be ripened after it is extracted. I cannot account for this except on the principle that some men lack the ability to judge both flavor and texture.

It is an admitted fact that some men are color blind, but that is no proof that there is not a great variety of colors. So it is in judging of the quality of honey. Every one must know for himself. Believing this to be a matter of great importance, and wishing to impress it upon the convention, I would say that bees do not gather honey, they gather nectar, and from nectar produce honey. It is therefore a process of manufacture, and if it is removed from the bees before that process is finished, man cannot finish it.

If asked what the bees do that man cannot, I say, I do not know. But I do know, and many others know, that there is a flavor and texture about honey that has been thoronghly capped that cannot be produced except by the bees. Why is it that comb honey is so much preferred to extracted ? Do people give nearly double the price simply because it is a fancy article ? No doubt this accounts for part of the difference, but the principal reason is, the honey is really finer than honey extracted before it was ripe.

I believe it is unwise to extract from the brood-nest and mix the honey with what is intended for market ; with very few exceptions can this be done without injuring the flavor and color. I believe in and practice taking all surplus from a top super. What the best size is for combs in the super, I do not know, having only had experience with combs the same size as those in the brood-chambers. I believe that this is the best practice, as it has several advantages that I need not here mention.

I also believe in using a queen-excluding honey-board, for by having the queens below, a great deal of trouble is saved while extracting. When the queen leaves the brood-chamber, it soon becomes a house in ruins.

A difficulty arises sometimes during a heavy honey-flow, when everything is full, but none of it ripe enough to extract. In that case it is better to put on a second super, on the tiering-up system ; that is, putting the empty one under the full one. The objection to this is, that it is expensive. I have tried with some degree of success to remedy the difficulty by only putting in one-half of the super combs, when the super was put on. The bees commence to fill those, and just when they are commencing to build new comb in the empty half of the super, I fill it with the remaining combs. Those that were first put in will be filled and capped much sooner than if all had been put in at once, and frequently they may be taken out and extracted a few days before the others are ready. This is a kind of make-shift. The best plan is a second super. F. MALCOLM.

In reply to a question, Mr. Malcolm stated that he used a perforated metal honey-board. He could not say what the comparative yield of comb and extracted honey would be. J. B. Aches, M. S. Shell, J. B. Hall and others sustained Mr. Malcolm in the statements of his essay, especially as to the necessity of having the honey sealed before extracting. Mr. A. Picket said he thought that it could be taken from a part of the body of the hive by means of perforated metal. The convention, by a large majority, appeared to be in favor of Mr. Malcolm's method.

The Mayor of the city, at this stage of the proceedings, gave an address of welcome.

J. E. Frith, of Princeton, whose bees have the foul brood, on account of careless and inexperienced neighbors, thought that the extractor was often dangerous in the hands of the inexperienced. W. F. Clarke, of Guelph, condemned the honey-extractor, but the members present however objected to this, and thought if the extractor is rightly used, it is a great acquisition.

A discussion at this time took place on the advisability of men commencing bee-keeping without experience, and a resolution was read as follows :

Resolved, That whilst it is the inalienable right of every body to enter bee-keeping, the same as any other honest business, it is the sense of this convention that it is unwise to do so without adequate knowledge and due qualification.

A vote was taken upon the resolution, after an amendment was made, allowing the purchase of a colony or two, and to gain experience as one went along from papers, books, and bee-keepers ; 5 voted for the amendment, 8 for the resolution, and a large number did not vote all.

A long discussion followed upon "Cellar wintering of bees." The temperature of J. B. Hall's cellar at present is 54° ; of C. McNally's, 55° ; of Jacob Alpaugh's, 50° ; and Martin Emigh's, 50°.

As to the question of under-ground ventilators or by air-pipes, the majority were in favor of discarding them, among them being Messrs. J. B. Hall, Emigh, and Alpaugh.

EVENING SESSION.

Mr. J. B. Hall read an essay upon

The Production of Comb Honey.

I am requested to give an essay on the best method of producing comb honey. Allow me to state that any method is but of little value unless in conjunction with the following conditions :

1. Bee-pasturage in abundance, of not more than two miles radius of the apiary.

2. That the pasturage should not be overstocked, but rather that it should not have enough bees on it to gather all the honey-flow.

3. That there be in charge of the bees, an apiarist adapted by *nature*, assisted by study and practice, to manage the same (but the nature part I consider the most important).

4. It is essential that a hive with movable combs, having a large top surface, be used.

5. That the bee-keeper be a specialist, or as the phrase is, "have all the eggs in one basket;" in that case they can be jealously watched and guarded, and used to the best advantage; not so if the eggs are mixed in many baskets with other things.

If the colonies have passed the winter and spring well, and are strong in bees and brood at the commencement of the surplus honey-flow, a good crop of comb honey can be secured by putting on the hive a shallow super of sections primed with comb or foundation. (I say sections, because if not in nice sections it cannot be sold to advantage.) Open the entrance of the hive to its full size, and when work is well commenced in the super, raise it up and put an empty super between it and the hive; continue thus until your judgment or experience tells you that they have enough space to contain the surplus honey that will be secured.

Other things being right, you will rejoice in a good crop of comb honey.

J. B. HALL.

A discussion followed as to the use of "dummies," and the method was condemned, unless the colony was of no more value, and could be destroyed after the honey season.

There was quite a diversity of opinion as to the use of full combs, full sheets of comb foundation, or starters in the brood-chamber, when working for comb honey. The weight of evidence appeared to be rather in favor of full sheets of foundation, unless one did not care if drone-comb was built. The old comb some found to soil the sections. The nicest sections could be secured by using starters only.

Time of putting on supers: If full combs are used, supers could be put on at once; if full sheets of foundation, almost at once; if starters, after the queen had commenced to lay.

Mr. S. T. Pettit then delivered

The President's Annual Address.

In reviewing the events that have transpired, and the work that has been accomplished during my term of office, I would notice the following:

1. That we have secured incorporation for the Ontario Bee-Keepers' Association.

2. That we have secured a Provincial Government grant of $500 per year.

3. We succeeded in making an exhibit of honey on a grand scale at the Colonial and Indian exhibition at South Kensington, London, England.

4. We have gotten the management and the price-lists of the apiarian department of the leading exhibitions of the Province, more or less under the control of one association, and although we cannot redress grievances of the past, it will be the aim and object of the association to prevent the recurrence of grievances in the future.

5. The foundation of an Association Library has been laid, the first book, of which was a present from our good friend, T. W. Cowan, F. G. S., F. R. M. S., etc.

6. We would not fail to notice the gratifying fact that our apiarian literature has been augmented by the publication of the *Canadian Honey Producer*, by our enterprising friends, E. L. Goold & Co., of Brantford.

7. And last but not least, the membership of our association has been largely increased.

And now, in order to make our association all the more useful, I would say, that whatever way the "grant" may be used, strict justice must be done to all parts of the province, and that the weak must be supported as well as the strong.

The appointing of judges and the necessity of placing the price-lists upon a somewhat different basis should be dealt with.

I will repeat my suggestion of last year, that reduced railway rates should be secured for honey. To avoid unfair rates in England, honey is sometimes shipped under the name of syrup.

Owing to ill-health and sickness of a severe nature in my family during the last session of the Parliament, I was unable to apply to the Legislature for legislation to prevent the spread of, and to stamp out foul brood in the country. Would it not be well for the prevention of the further spread of foul brood, to appoint competent judges—to examine and report upon the health of the bees of all those who advertise bees for sale? All who own bees for sale should be very careful not to sell diseased bees, nor should bees be sold and shipped out of a diseased locality.

Another dangerous source of spreading foul brood consists in selling honey from foul-broody apiaries. Empty containers are thrown out, and neighboring bees lick up the disease and carry it home. Imported bees should be examined at the port of entry.

The question arises: Why should the sale of diseased bees, or any other article calculated to spread the disease, be tolerated any more than the sale of cholera pigs, or cattle afflicted with pleuro-pneumonia? Great care should be observed by those who visit apiaries afflicted with foul brood, to most thoroughly disinfect themselves and all their tools before going into the vicinity of other bees. I am sure that the principle is gaining ground, that the wealthy should not sit down by the side of, and starve out and destroy, a poor brother who has placed all his means, and perhaps more too, in bees and the necessary buildings and other appliances for keeping bees.

The principle, as claimed by some, is not a "new force," but is the same commendable, kind and brotherly spirit that moved Abram, when he said unto Lot, "Let there be no strife, I pray thee, between thee and me, and between my herdmen and thy herdmen; for we be brethren."

To advocate the principle of the "survival of the fittest" in bee-keeping, especially since there are lots of inviting unoccupied fields, is simply to encourage the strong to worry and devour his weaker brother. There is no "Do as you would wish to be done by" in it at all.

Whereas an outlet for our surplus honey, is a question of vast moment to every bee-keeper in Canada, I deem it my duty at this time to say a word upon that important subject.

It will be remembered that a year ago I spoke encouragingly of largely increasing the production of honey in Canada, but when all the facts now bearing upon the case are put together, and weighed and balanced up, they force upon my mind the opinion (and I want that opinion to go upon record) that the British markets are virtually lost to us at paying prices, or even at prices at which a man can make a decent living. I know this is a dark picture to present to your minds, and I am exceedingly pained to be obliged to hang up in this cheerful room one so very opposite from what I could wish to present to the view of this intelligent meeting; but there is no alternative; duty to you all, and to myself as well, imperatively demands that I deal faithfully in this matter.

The collecting of statistics relative to our pursuit should be considered.

And now, in conclusion, I would suggest that the conditions are ripe for devising a scheme whereby all county bee-keepers' associations in Ontario may be affiliated with the parent body.

S. T. PETTIT.

C. McNally gave his method of wintering, and described his cellar. It is made of stone, 20x37, and 9 feet high. There are four sub-earth ventilators,

and a stove-pipe connecting from the bottom of the cellar with the stove-pipe above, and a "cooler" pipe from direct outside. The temperature for the last four years has been 48° to 55°, and he has never yet lost a colony. Some members have damp, and others dry cellars, and are equally successful.

R. F. Holtermann reported that he was about to build a cellar under a dwelling-house. First, stone wall, then a one brick wall inside, allowing an air-space between the two. The ceiling would be tongue and groove boarded, with felt paper, and between this and the floor above have a packing of sawdust; a spring flows through the cellar to equalize the temperature, purify the atmosphere, and probably help to keep the atmosphere dry, as the moisture in the warmer atmosphere would condense upon the cooler spring water. The finest cellar he had ever seen was that of J. Alpaugh, and he had his thus, all but the spring.

R. McKnight gave a description of his cellar or repository, the general temperature of which was 49°, often as low as 44°, but seldom 50°.

THE SECOND DAY.

The morning session of the second day opened with President Pettit in the chair. An essay was then read, written by Mr. James Heddon, of Dowagiac, Mich. Mr. Heddon very ably pointed out how much there was of speculation as to what would overstock a locality with bees. From reports, however, one could see that where a few colonies were kept, a large yield could be secured. His essay closed with the following paragraph:

"I am again determined to add my mite to answering the question, by continually increasing the number of my colonies, until a term of seasons, whose natural advantages and disadvantages, all considered, shall tell me something of this obscure problem."

An essay was read from Dr. C. C. Miller, of Marengo, Ills., which may be found on page 26 of the AMERICAN BEE JOURNAL, in regard to specialists in bee-keeping.

By the reception which the Doctor's essay received, many members were evidently in favor of specialists.

Mr. R. McKnight then read an essay on "Our local honey market, and how to cultivate it." [This essay will be published as soon as we have room for it.—ED.]

The board of directors reported that all the members of last year should have a copy of the revised work of Rev. L. L. Langstroth, on "The Hive and the Honey-Bee."

The Secretary reported $166.90.

The association adopted a new Constitution and By-Laws, by means of which county associations can affiliate with the provincial. County associations are to pay $5 per annum, and must have five members (members of the Ontario). This sum is more than returned by the share of the grant which they secure for competition in prizes at the county show.

The following officers were elected: President, M. Emigh, Holbrook; Vice-President, J. B. Hall, of Woodstock; Directors: F. K. Darling, Almonte; A. Picket, Nassagaweya; Wm. Cowie, Streetsville; Allen Pringle, Shelby; E. Schultz, Muskoba; F. A. Gemmil, Stratford; F. Malcolm, Innerkip; and R. McKnight, Owen Sound. Auditors: F. H. Macpherson, of Beeton, and R. F. Holtermann, of Brantford.

The convention then adjourned to hold the next meeting at Owen Sound, Ont.

Brantford, Ont.

NEBRASKA.

Results of Keeping Bees for Eight Years.

Written for the American Bee Journal
BY WILLIAM STOLLEY.

While, with many bee-keepers, the season of 1887 has been a season of short crops, I cannot complain, and the following is my report:

After selling 5 colonies in the spring, I began the season with but 23 colonies, which were partly in extra good, and partly in but fair condition.

The amount of honey that I took was 2,078 pounds, or an average of 90⅔ pounds per colony, spring count. I had but 2 colonies for the production of comb honey, which gave a little over 50 pounds each, in one-pound sections.

I increased my apiary to only 31 colonies, which are all well supplied with winter stores (each having about 23 pounds), and I have about 300 pounds of honey in the comb, put aside for late spring stimulation.

My best colony produced 140 pounds of surplus (extracted) honey, while the year previous (1886) I obtained 210 pounds from my best colony. This success I owe principally to the sowing of sweet clover, while fields of Alfalfa clover within two miles of my little apiary have helped the bees materially. (Remember that central Nebraska is naturally not well adapted to the keeping of bees.) Ever since Dec. 9, 1887, my bees have been covered up to stay, and enjoy their winter rest, in a bee-house on the summer stand.

So far we have had a very cold winter. On Nov. 27 the mercury was 32° below, and this morning it was 27° below zero.

For eight years I have kept bees. I commenced with but 2 colonies of hybrids. Guided by the teachings of the AMERICAN BEE JOURNAL and standard works on apiculture, I proceeded cautiously, and the result is, that I have as fine an apiary as there is to be found anywhere. During the eight years I have paid out for bee-house lumber, implements, comb foundation, queens, etc., $642.16. My cash receipts for honey and bees sold are, $1,636.78. The value of my apiary to-day is $640.50 (but I would not sell it at that figure); hence, a balance of $1,635.12 is left to pay me for my labor.

Of course I do not depend upon my bees for a living; but they are a source of pleasure and recreation to me. I like them!

Bees must be attended to accurately and promptly, whenever they require attention. Persons who are negligent about them, have no business to keep bees. They will only find themselves "left" sooner or later, if they attempt it.

During the last week it has been extremely cold, so that we could not get nor dispatch any mail matter. It was 35° below zero at 9 o'clock this morning. It is now abating, but is still 15° below zero.

Grand Island, ⊙ Nebr., Jan. 15, 1888.

THE PAST SEASON.

The Honey Yield, Swarming and Wintering.

Written for the American Bee Journal
BY JNO. A. THORNTON.

The bees came out the past spring in excellent condition, and never were better ready to gather a large crop of honey. But the honey did not come. Soft maple first yields honey and pollen here; elm, hickory, hard maple, etc., furnish an abundance of pollen until fruit bloom is over; but the fruit, especially apples, had no bloom last spring, consequently there was no honey from that source. Notwithstanding the above draw-back, the bees continued to increase in numbers until their hives were very full of bees. Most of the colonies were preparing to swarm by May 10, and one colony cast a swarm on May 8, but it did nothing until June 5, when it gathered enough to build comb.

Several more colonies swarmed about this time, but those colonies that cast swarms did not gather any surplus. More than half of my bees did not build comb and store enough honey to last them until the fall yield came. From those that did not swarm, I secured enough surplus to make an

average of 10 pounds each from 140 colonies, or 1,400 pounds, about half comb and half extracted honey, of very fine quality.

The fall yield was quite good—very nearly as good as the four seasons previous had been. The colonies all gathered a good supply for winter use, and an average surplus of 10 or 11 pounds, so that I had nearly 3,000 pounds for sale, with 150 good colonies for the winter.

I am wintering 25 colonies in the cellar, and the balance out-of-doors; 50 of the latter are in Root chaff hives, and some are in Simplicity hives, confined on 7 to 8 frames, with two ⅞-inch divison-boards, one on each side, and an upper story half full of new wheat chaff. The balance are in Langstroth hives, prepared below the same as those in Simplicity hives, with a 5-inch chaff cushion in the cap.

Last Wednesday the bees out-doors had a good flight, and seem to be in excellent condition.

Lima, Ills., Jan. 8, 1888.

SELLING HONEY.

Bees Drawing Out Foundation —Ignorant Bee-Keepers.

Written for the American Bee Journal
BY JOHN TURNBULL.

I have just had a peep into my bee-cave, and find the bees very quiet, with very few dead ones on the floor. The temperature is 40° above zero in the cave, and 26° below outside. On Nov. 18, 1887, I put in 5 rather weak nuclei and 55 good colonies with 20 to 50 pounds each of buckwheat honey, and honey from the fall flowers.

I started in the spring of 1887 with 48 colonies, increased them to 60, and took 700 pounds of honey in 1-pound and 1½-pound sections. White clover yielded but little, and basswood the same. There was much golden-rod, but the bees did not work on it. Where the chinch-bug killed the winter wheat, wild buckwheat came up thick, and yielded well, and the bees preferred it to tame buckwheat.

For some reason or other, the bees did not like to draw out the foundation. I gave them some sections filled with comb, and they bulged them out of all proportions, some being 4 or 4½ inches wide. I will have to use separators.

I have nearly all of my honey yet. I went to La Crosse, Wis., early in the fall to try to make some sales, and they asked me what I wanted for my honey. I told them 15 cents per pound. They laughed at me, and said that they could get all they wanted at 8 cents, and fully as white honey as I ever saw; but it is worth 12½ to 15 cents, and at retail 18 to 20 cents. I will try to get the names of those bee-men that sell their honey so cheap. They ought to read the good old AMERICAN BEE JOURNAL.

I tried to find the commission man in La Crosse that a "Rip Van Winkle bee-keeper" sold his honey to, as mentioned on page 789 of the AMERICAN BEE JOURNAL for 1887; but I could not find him. I know a La Crosse bee-keeper that bought several hundred pounds of honey for 8 to 10 cents per pound, and sold it at retail for 15 cents per pound.

La Crescent, Minn., Jan. 16, 1888.

CAVE FOR BEES.

The Season of 1887—Wintering Bees in a Cave.

Written for the American Bee Journal
BY A. REUSCH.

The past season has been the poorest one for honey in this locality that I have experienced since I have been in the bee-business. I began with 72 colonies in the spring, and a part of those were light, yet during April and May I got them into good working condition, but when June came the drouth commenced, and from that time they gathered hardly enough to live on.

My increase was 13 colonies. I had to feed the bees for winter, and I did not get honey enough for use in my own family, besides spending five months' labor, and an outlay of $65 in cash. I believe in giving correct reports, whether good or bad.

A Cave for Bees in Winter.

I have always wintered my bees in the cellar, and very successfully. In 1886 I built a cave by digging 3½ feet deep into the ground, and 25x8 feet, with posts of 6½ feet set around it, 2 feet apart, and on top 1 foot apart, and then I nailed boards on all around. I banked up the sides and sodded them; on top I put earth about 18 inches thick, and covered the same with long slough-grass. In the west end is a ventilator made of lumber 7 inches square inside; at the east is an underground ventilator made of 4-inch tiling, and 60 feet long; and it has two doors, outside and inside.

The temperature ranges from 40° to 44°. The total cost was about $50. I have 56 colonies in the cave, and 29 in the cellar, and they have wintered well so far, very few bees dying. I owe many thanks to the AMERICAN BEE JOURNAL for much valuable information.

Chariton, Iowa, Jan. 23, 1888.

WINTERING BEES.

How the Bees are Prepared for the Winter.

Written for the American Bee Journal
BY P. J. BATES.

I commenced the season of 1887 with 18 fair colonies of bees, from which I had 2 natural swarms, obtained 100 pounds of honey in one-pound sections, and a glass case of 24 pounds of comb honey, which I took to the Fair last fall, and which was pronounced the best filled and best appearing case of honey ever shown in this locality. Of course it took the premium.

On Dec. 5, I put 17 colonies into a new cellar under the sitting-room, without any ventilation excepting the door, where I go in every day to notice the temperature, which ranges from 38° to 46°. When at 46°, I can hear a low, quiet hum; when at 38°, the bees, to all appearance, are perfectly quiet. There has not been a pint of dead bees on the floor. The cellar is quite dry.

The bees were left in the same condition as they were on the summer stands, each colony being weighed when put in. The 3 colonies left on the summer stands were average colonies, in single-walled hives, without any protection except a cushion of forest leaves about 4 inches thick over them; and with an upward ventilation at the back part of the hive, ½ inch by 4 inches, as an experiment, to try to get rid of the dampness that comes from the breath or cluster of bees. When I put them on the summer stands I will report again.

White Hall, Ills., Jan. 21, 1888.

SEASON OF 1887.

The Drouth Causes a Dearth of Nectar.

Written for the American Bee Journal
BY B. D. SCOTT.

I commenced the season of 1887 with 30 colonies of bees in fair condition, and increased them to 60 colonies. I bought 2 colonies last fall, so I have 62 in the cellar, and they are wintering finely, with the temperature at 42°, while it is 10° above zero outside. We have had no zero weather in this locality this winter.

My bees produced about 1,000 pounds of extracted honey, and 200 pounds of comb in one-pound sections, the past season. The season was very poor on account of the drouth. Alsike yielded well for a short time, but seemed to ripen all at once.

Basswood blossomed very profusely, and yielded honey for a few days; but when it should have been at its best, in an ordinary season, it was gone, being dried to a crisp on the trees without forming seed-balls. One bee-keeper said that he saw bees on the ground trying to get honey from the blossoms that had pollen.

Buckwheat has been a failure in this locality for several years, and why it is I am unable to explain, as the crop of grain is generally fair. We have had two poor honey seasons in this locality, but I am getting ready for the expected "gush" the coming season.

Ovid Centre, ⊙ N. Y., Jan. 21, 1888.

SPECIALISTS.

Some Comparisons in Regard to Bee-Specialists.

Written for the American Bee Journal
BY WM. H. BALCH.

A specialist in bee-culture or honey-production is a man (whether he owns 5 or 1,000 colonies of bees) who keeps bees for their real profit in dollars and cents; who studies their nature and habits, so that the best methods of management in spring, summer and winter may be applied; who uses proper appliances at the proper time, that the best results may be attained; who keeps posted on the market, watching the present production as well as the amount of last year's crop on hand; who puts his honey in the best marketable shape possible, and who devotes the necessary time to accomplish the foregoing.

I am very sorry that I am not a specialist (and all who keep bees), although my first earthly possession, aside from a hand-sled, was a colony of bees. I have sold honey by the ton, and hundreds of colonies of bees and queens. Bee-keeping has been but a side-issue with me, so, as Dr. C. C. Miller terms it, I am on the "middle ground."

Can the specialist produce honey as cheaply as the "happy-go-lucky bee-men?" Oh, no! not in this region of country. But they are the very men that govern our home and city markets. Many may be surprised at that, but I can prove it by a demonstration, viz: The Doctor says that the bees cost the happy-go-lucky man nothing, and no labor bestowed. Well, that is about the truth; yet I have known some, and there are plenty of bee-keepers all around me, whose apiaries run up to 100 colonies, and each has 1,000 or 1,500 pounds of honey to sell.

Look at the specialist: He has a winter repository, shop, honey-house, hives, sections, and other necessary fixtures, worth from $500 to $1,000. This, in a few years, will decay; but our farms do not, with 100 colonies, and with the necessary land to be occupied worth $1,000 more. Here we have $2,000 invested in perishable property, except the land, which will have to be replaced once in thirty years, or repaired to that extent. The interest on $2,000 for one year, at 6 per cent., is $120; to which add the replacing of perishable fixtures once in thirty years, which is $66.66 a year, making a yearly expense of nearly $187.

Then add to the above, hives, sections, crates, foundation, glass, etc., with winter losses, a hard year's work, and with the anxiety in a poor season; and then compute what your honey has cost the past two years! Some have put it up to a dollar per pound.

Oran, ⊙ N. Y.

COLORADO.

Report of the Colorado State Convention.

Written for the American Bee Journal

The fifth annual meeting of the Colorado State Bee-Keepers' Association was held at Denver, Colo., on Jan. 19, 1888.

The usual discussions on the best methods of preventing bees from robbing, best method of wintering bees, foul brood, bee-diarrhea, etc., were indulged in. The honey product of Colorado was reported proportionately larger than that of any other State the past season. The industry of bee-keeping is in a thriving condition, and is developing rapidly.

The following officers were elected: President, E. Milleson, of Denver; Vice-President, Mrs. Levi Booth, of Denver; Secretary, J. M. Clark, of Denver; Treasurer, Mrs. R. H. Rhodes, of Arvada; and the Executive Committee composed of Wm. Davis and Mrs. Levi Booth. J. M. CLARK, *Sec.*

TRANSFERRING.

When to Transfer Bees—Fastening Foundation, etc.

Written for the American Bee Journal
BY F. B. REYNOLDS.

1. When is the time to transfer bees in the spring, from one hive to another? 2. When is the best time to put on sections?

My bees had a flight on Jan. 14, except 7 colonies in chaff hives, such as G. M. Doolittle describes. I have 35 colonies, some in Langstroth and some in Quinby hives. My bees did not gather much honey this season. I obtained about 500 finished sections, and about the same of unfinished sections. I am making 30 new chaff hives. I line the hives for winter with buckwheat hulls, of which I can get about a bushel in a hive.

Fastening Foundation in Sections.

The way I fasten foundation in the sections is, to put a dish over a small lamp, and put in it a piece of wax; take a glazier's knife and dip it into the wax, cut the starter the size wanted, take it in the left hand, and run the knife along on the section, then double it up, and you have it fast.

3. We have very much sweet clover here, our river banks being covered with it, and also the creeks; but my bees do not seem to work on it much. There is an immense quantity of it.

Rossburg, ♀ N. Y., Jan. 16, 1888.

[1. Transfer bees in the spring, when there is the least honey in the frames, and in the middle of a fine, warm day.

2. Put on the sections when the honey-flow begins.

3. Many kinds of bee-pasturage do fail to produce nectar in some seasons, when the atmosphere is unfavorable to the secretion of nectar. Sweet clover is no exception to this.—ED.]

BEE-CELLAR.

Space for Each Colony in the Cellar—Temperature.

Written for the American Bee Journal
BY C. P. HEWETT.

After having a well regulated bee-cellar with ventilators that can be opened and closed at will, then comes the most important point, viz: the space that each colony should occupy. I find that 16 cubic feet, no more nor no less, should be given to produce good results.

If more space is given, the harder it will be to keep the temperature up; less than that, the harder it will be to keep it down.

Proper Temperature in Bee-Cellars

I winter my bees at a temperature of 42°, and through this cold weather I have been able to hold the temperature at that point. We have now had 14 days that the temperature was below zero. I have not seen this mentioned by any writers. I consider it one of the most important points in wintering bees.

If the apiarist does not let the temperature go below 40°, or above 44°, he will not have any bee-diarrhea to report; if the hives are properly ventilated, unless the cellar is too damp.

Kingston, ⊙ Wis., Jan. 23, 1888.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Feb. 4.—Stark County, at Canton, Ohio.
Mark Thomson, Sec., Canton, O.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

First Snow-Fall, etc.—Mr. John Boerstler, Vashon, ⊙ Wash. Ter., on Jan. 12, 1888, says:

The first snow fell to-day. The temperature was 9° above zero for 3 or 4 days; it was very cold here for a few days.

Honey Quotations, etc.—J. S. Catterson, Harvard, ♀ Neb., on Jan. 21, 1888, writes:

I started last spring with 2 colonies, secured one swarm, one absconded, and I took 100 pounds of comb honey. In conversation with a grocer a short time since, he said that he would pay "Chicago prices" for honey now, and on asking how much that was, he said, "From 5 to 7 cents per pound." Having just received the BEE JOURNAL from the post-office, I showed him where our style of honey (we have no white clover or basswood in this locality) was quoted at 17 and 18 cents. He realized that he was beaten, and proceeded to set forth the unreliability of "market reports." He affirmed that his price-list so reported it to *him;* but he did not exhibit the list.

Severe Winter—Poor Season.—H. L. Rouse, Ionia, ♂ Iowa, on Jan. 13, 1888, writes:

We are having a very severe winter, an unusual amount of snow having fallen already. Last night and this forenoon the wind blew a perfect gale from the northwest, while the thermometer marked 21° below zero this morning, and it kept at 18° below zero all day. It is 22° below this evening. It does not get above zero very far nowadays.

I am wintering 100 colonies in chaff hives, and nearly one-half are completely buried in the snow. I commenced the season of 1887 with 90 colonies, intending to work them for extracted honey, but, alas! when fall came I had some experience but no honey, or just barely enough for winter stores. Therefore a big cipher would represent my income from the bees the past summer. My apiary is not the only one in this locality that has failed to reward the apiarist for his labors.

The AMERICAN BEE JOURNAL seems better than ever in its New Year's dress.

Cleansing Combs — Plants for Honey.—A. H. Dunlap, Aral, ♀ Kans., asks the following questions:

1. What can I do with combs full of bees, dead from starvation? 2. Will the bees take them out if put into other hives? 3. Name 6 or 8 of the best honey-plants, in the order of their excellence, and give a brief description of how and when to sow, plant and cultivate them. Such information would be worth a great deal to us who have a scarcity of natural honey-plants.

[1. Let the bees clean them out.

2. Yes.

3. Any of the books on apiculture will give you the information.—ED.]

Results of the Season.—Thos. E. Turner, Sussex, ☌ Wis., on Jan. 16, 1888, writes:

My 86 colonies of bees are doing finely in the cellar, so far this winter. The trying part of cellar-wintering I always find to be the last part of February and March. I have realized about 20 cents per pound for most of my 1,500 pounds of comb honey, and 10 cents per pound for 430 pounds of extracted honey—the crop of 1887. I hope for a full crop this year, instead of but 35 pounds per colony, for 1887; but I did better than many others around me, as some have hardly enough to winter their bees.

Honey for the Liver.—W. H. Smith, Mount Salem, Ont., on Jan. 21, 1888, gives the following directions for taking honey as a remedy for liver trouble:

Since my letter on page 27 was published, I have received several inquiries as to the method of taking honey for the liver, as mentioned in my letter. In order to expedite matters, I concluded to reply through the AMERICAN BEE JOURNAL, and at the same time give all inquirers the benefit of my reply. Here it is, as practiced by my wife, who is now a living epistle of the virtues of honey as a liver medicine:

Take of Alsike clover or basswood honey, as much as can be taken without causing too much nausea, say every two hours through the day, until a cure is effected.

Bee-Escape for the Extracting-Room.—Albert H. Lind, Calumet Harbor, ☌ Wis., on Jan. 15, 1888, says:

I commenced the season of 1887 with 4 colonies, increased them to 10 colonies, and took 143 pounds of extracted honey. As a general thing, the honey crop of this part of Wisconsin was a very poor one. My bees were put into winter quarters on Nov. 20, 1887, and seem to be doing nicely. The bee-room gets its ventilation through a chimney. Will some one please write an article for the AMERICAN BEE JOURNAL on how to make a bee-escape for my extracting-room?

Bees did Well in 1887.—W. A. Evans, Gober, ♂ Tex., on Jan. 16, 1888, writes:

Bees did well here in the season of 1887. I started with 31 colonies, increased them to 66 colonies, and obtained 5,000 pounds of extracted honey.

Insuring Bees in the Cellar.—J. F. Miller, Rodman, ♂ N. Y., on Jan. 23, 1888, says:

As Mr. A. C. Waldron wishes to know about insuring bees against loss by fire, I would say that I have mine insured in the Niagara County Company, of New York City, from Nov. 1 to May 1, while they are in the cellar.

Good Yield in Texas.—Fred F. Rockwell, Leonard, ♂ Tex., on Jan. 18, 1888, writes:

Our season the past year has been good, my crop of honey being about 2,200 pounds from 18 colonies, spring count. The colony having my best Italian queen produced nearly 300 pounds of extracted honey. In 1886, during the drouth, I averaged 80 pounds per colony, and, strange to say, I did not get any surplus from the same source that I did in 1887. My surplus the past season was from horse-mint, cotton and fall flowers. In 1886 the yield was from rattan, and a new (to me) flower, analyzed by a botanist as one of the "golden-rods."

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Simmins' Non-Swarming System will be clubbed with the BEE JOURNAL for one year, both postpaid, for $1.25.

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 lb., $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. We can supply them at five cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please to get your Neighbor who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White comb, 16@18c.; dark, 13@15c. Extracted, 7@10c. Market dull, but more active demand looked for when weather moderates.
BEESWAX.—21@22c.
Jan. 25. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—Choice comb, 18c., with some fancy held a little higher. Extracted, 7@9c. Demand light.
BEESWAX.—22@23c.
Jan. 21. R. A. BURNETT, 181 South Water St.

DETROIT.

HONEY.—Best white in 1-pound sections, 18@20c. Extracted, 9@10c. Demand brisk.
BEESWAX.—22@23c.
Jan. 20. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lbs. sections sell at 19@20 cts. Extracted 7@8c. Demand small and supply fair
BEESWAX.—22@25c.
Dec. 15 A. C. KENDEL, 115 Ontario St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 16@19c.; the same in 2-lbs., 14@16c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c. Market dull.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Jan. 20. 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote: Choice white 1-lbs., 18@20c.; dark, 16@18c.; choice white 2-lbs., 18c.; dark, 15 to 16c. Extracted, white, in 60-lb. tin cans, 9c.; in barrels, 8c.; dark, in barrels, 5@6c. California 2-lb. white comb, 18c.; dark, 16c. Extracted, white, in 60-lb. cans, 8@9c.; amber, 8c.
BEESWAX.—No. 1, 20c.; No. 2, 16@18c.
Dec. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—Choice comb, 18@20c.; latter price for choice white clover in good condition. Strained, in barrels, 5@6c. Extra fancy, and of bright color and in No. 1 packages, ¼-cent advance on above. Extracted, in bbls., 6½@7c.; in cans, 7 to 9 cents. Short crop indicates further advance in prices.
BEESWAX.—20c. for prime.
Dec. 19. D. G. TUTT & CO., Commercial St.

CINCINNATI

BEESWAX.—Demand is good—20@22c. per lb. for
HONEY.—We quote extracted at 4@8c. per lb. Choice comb, 16@20c., in the jobbing way. Demand fair and supply good.
good to choice yellow, on arrival.
Jan. 24. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17@19c.; fancy 2-lbs., 15@16c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Extracted, white, 9@10c.; buckwheat, 6@7c.
Demand has slackened some, and to make sales we must shade above prices. About Jan. 15 we expect a more active demand.
Dec. 31. F. G. STROHMEYER & CO., 122 Water St.

PHILADELPHIA.

HONEY.—Fancy white 1-lbs., 18@19c.; fair 1-lbs 17c.; dark 1-lbs. are slow sale at 14@15c.; fancy 2-lbs., white, 15@16c.; buckwheat fancy 1-lbs., 13@14 cts.; common, 12c. Prices tend downward.
BEESWAX.—23@24c.
Dec. 11. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lbs., 20c.; fair, 19@20c.; 2-lbs., 18@19c.; 3-lbs., 16@18c. White extracted in kegs or half-barrels, 9½@9¾c.; in pails or cans, 9½ to 10c.; amber, in ½-barrels, 9¼@9½c.; dark in kegs and barrels, 7@7½c. Demand good, supply fair.
BEESWAX.—22@25c.
Dec. 15. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 13@18c.; amber, 12@16c. Extracted, white liquid, 7@8c.; amber and candied, 6½@7c. Market quiet.
BEESWAX.—20@24c.
Jan. 14. SCHACHT & LEMCKE, 122-124 Davis St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@15c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Jan. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts.; dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is light.
BEESWAX.—21 to 22c.
Jan. 10, HAMBLIN & BEARSS, 514 Walnut St.

DENVER.

HONEY.—Best white 1-lb. sections, 19@20c.; 2-lb. sections, 16@18c. Extracted, finest grade, 12½c.; dark, 8@9c.
BEESWAX.—20@23c.
Jan. 16. J. M. CLARK & CO., 1409 Fifteenth St.

SAN FRANCISCO.

HONEY.—We quote: White comb, 17@19c.; amber, 12½@15c. Light amber to white extracted, 7½@8c.; amber, dark and candied, 6¾@7¼c. Market firm and stocks light.
BEESWAX.—22@23c.
Dec. 12. O. B. SMITH & CO., 423 Front St.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	2 00	1 80
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers..	5 90	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Simmins' Non-Swarming	1 50	1 25
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
Cabbage and Celery	1 25	1 15
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

A **MACHINE** for putting together 1-piece SECTIONS. It will pay for itself in one day's use. No bee-keeper can afford to be without one. **Price, $2.50.** Send to your Supply Dealer, or to

WAKEMAN & CROCKER,
LOCKPORT, Niagara Co., N. Y.

☞ Correspondence with SUPPLY DEALERS Solicited. 5A26t
Mention the American Bee Journal.

COMB FOUNDATION MOLDS, $3.75
Langstroth Size. (See page 23.) Address,
5A1t OLIVER FOSTER, Mt. Vernon, Iowa.

FOR SALE.

21 HORSE-POWER Upright Engine and 32 Boiler, with 3 Pulleys, 2 Belts and 16-foot Shaft. Only in use two seasons. Almost as good as new; with valves, cocks, steam-gauge, 20-foot smoke-stack and Hancock's injector. All completed. Will take $160 cash, on board the cars at Knoxville, Iowa. Cost when new, $237.50. For particulars enquire of
J. W. BITTENBENDER,
1Dtf KNOXVILLE, IOWA.
Mention the American Bee Journal.

NOTICE.

BEE-HIVES and SUPPLIES,

SECTIONS, T-Tin Cases and Shipping-Crates, Bee-Smokers and Metal Corners, Honey-Extractors and Honey-Knives.
☞ Send for Price-List.
B. J. MILLER & CO.,
49D4t NAPPANEE, INDIANA.

SUPPLY DEALERS

AND **OTHERS** should write to me for SPECIAL PRICES on **BEE-SUPPLIES** for this fall and winter.
☞ **A heavy Discount allowed.**
Address, **A. F. STAUFFER,**
44Dtf STERLING, ILLINOIS.

$16 Buys our DAISY HARNESS, worth at retail $25 Sent to examine and return at our expense. Catalogue free. CHICAGO HARNESS CO., Wholesale Mfg., 375 Wabash Ave., Chicago, Ill.
1D3t

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN.
EDITOR.

Vol. XXIV. Feb. 8, 1888. No. 6.

EDITORIAL BUZZINGS.

An Illustrated Article, giving some historical facts about bee-feeders, may be expected in next week's issue. It covers a period of over 30 years, and shows the many progressive steps in that direction.

While the Northwest has been freezing, with the thermometer ranging at 50° to 60° below zero for several weeks—now, the reports are that it is from 50° to 60° above in Missouri, Nebraska, and Kansas, and that bees are sporting in the balmy air. Oh! how changeable!

Conventions.—This week we give up most of our space to the proceedings of three conventions. There are many good points brought out in them, and these reports will repay a careful perusal. Some of the essays will appear later, as we can find room for them. In next week's issue we shall give a report of the New York State Convention.

If the Ground Hog came out of his hole on Candlemas-day (Feb. 2) in this locality he could *not* have seen his "shadow," and therefore as that "saw" goes, he came out to stay, and we are to have an early spring. We are therefore to be saved from six weeks more of cold weather, which it is claimed would have ensued had the ground hog seen his shadow and gone back into his hole for 40 days.

The Bees are Wintering Well so far, but it is early yet to prognosticate with safety. One correspondent expresses himself in this cautious manner:

So far our bees are "wintering splendidly," but we must not anticipate the story that may be told next April.

Bees Wintering in Box-Hives.—The question is often asked why bees in box-hives fare better in winter than those in frame hives. As a rule they do *not* fare better; there are some cases reported similar to the following, which comes from Mr. S. P. Stone, of Holly, Mich.:

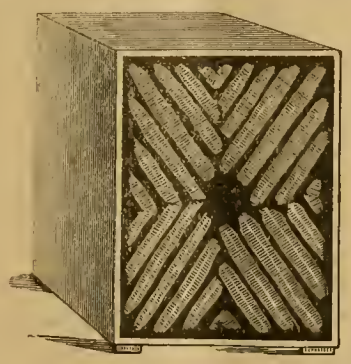
In 1859, in a town adjoining, a swarm of bees was put into a hive, the inside measure of which is 16 inches square and 22 inches high. The entrance is 4 inches long and ½ an inch high. One-third from the bottom is four ¼ inch holes, side by side; one-half way up, is one ½-inch hole, and in the top is a 2 inch auger hole, to admit the bees to a box for surplus. A board is laid over the hole when the box is off. It stands out-of-doors, without protection of any kind, has never been moved, has yearly cast from 2 to 5 swarms, and is in good condition; yet they are native black bees! Mr. Editor, can you tell us why they have thus lived and prospered, while others have perished?

Can we tell what caused the epizootic? Can we determine why yellow fever spreads over a Continent? Can we give the reason for the extreme prevalence of typhoid fever at the present time? These often take possession of a locality, or even a single family, and those on another street or other localities, are not affected by it!

Can we tell "why these bees have lived and prospered while many others have perished?" No. We can "guess" at it—but no one can "tell" with certainty.

A correspondent wrote us as follows some time ago:

One of our neighbors in the fall had 84 colonies of bees in box-hives; but all were dead in the spring but one, and that one was strong, and commenced to swarm early. In the next fall he had 33 colonies in box-hives, and again lost all but the same one, and that cast a large swarm in the following May. In the latter box hive the combs are



built from each corner to the centre, as shown in the engraving. I know of several instances very similar to the above.

Now, may not this instance serve to illustrate the matter, and help to solve the mystery? Perhaps the box-hive mentioned by Mr. Stone has combs built in a similar manner—fully protected from the winter's cold—thereby saving the lives of the bees during our long and tedious winters!

At least we shall *guess* that it has, and offer this as our answer to the question.

We are Sorry to learn that Mr. J. Vandervort, of Laceyville, Pa., inventor of foundation mills, has suffered loss by fire.

Where Shall it be?—Many are anxious to know where the next International Convention is to be held. Mr. R. R. Ryan, ex-President of the Nebraska Bee-Keepers' Association, writes thus about it:

I would like to have the National Convention held, if possible, at Columbus, Ohio. Then we could take in the "Centennial," the National Re-union of the G. A. R., and the Bee-Keepers' Convention. If nothing happens lots of the "old boys" will be on hand. Rates will be low, the attendance large, and a grand good time may be expected in all the departments.

So far the votes have been about equally divided between Columbus and Cincinnati. Let the rest of the "votes" be sent in at once, so that the matter may be decided as soon as possible.

Live as Long as Sheep and Hens.—As another example of the ignorant "scribbling" of those who write for the daily press, we may cite the following from the New York *Ledger*:

The scientific culture of bee-breeding and honey-making is leading to interesting discoveries with regard to honey-bees. According to the reports of experts, queen-bees live as long as sheep and hens, and have marked distinctions of disposition and character, which they so vigorously transmit to their offspring that the introduction of a new queen into a hive will change the character of the entire swarm in a few months. The queen lays all the eggs from which the bees in a hive are hatched, and they take their ruling qualities from her. Hence some swarms are industrious, while others are lazy; some are good-natured, while others are ill-tempered, and so on. As soon as it is found that a queen's progeny are of an undesirable kind, she is killed by the bee-breeder, and another queen put in her place.

Just fancy a queen-bee living as long as a hen or sheep. It is now even questioned whether a queen should not be superseded after the first year of her existence!

Mr. F. A. Lockhart, of Lake George, N. Y., who sent the "item" from the *Ledger*, comments upon it in these words:

I have seen sheep 12 years old, and hens 14 years old. I never had a queen-bee that lived to be of that age. I do not know where the New York *Ledger* got its report of experts from. Perhaps where they live, sheep and hens do not live to be very old. I think the experts had better learn a little more about queen-bees, sheep and hens before they compare their ages.

Warm Weather is reported by several in the Northwest, but the following from Mr. John Blodget, of Flag Springs, Mo., written on Jan. 31, 1888, seems to carry off the palm, at 90° in the sun. He says:

My bees had a fine flight on Jan. 29, 30, and 31. It is very warm; the mercury standing at 90° in the sun, and 50° in the shade. My bees are all alive and healthy. I never saw so few dead bees on the bottom of the hives. I could hold all of the dead bees in my hand. They speckled the snow a very little indeed for so long a confinement. I like the chaff packing very much.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

GLEANS OF NEWS.

Poisoning the Bees.—Under this heading, on page 803, of our issue for Dec. 21, 1887, we referred to a malicious article in the Atlantic, Iowa, *Messenger*, advising grape-growers to poison the bees in their localities.

It also asserted that "the grape-raising industry has been almost entirely killed out in Ohio, by this nuisance." This we stated was a malicious falsehood, and asserted that the author of it was either ludicrously ignorant,or a willfully malicious slanderer!

Mr. W. M. Bombarger, of Harlan, Iowa, a member of the Iowa Horticultural Society, and a fruit-grower, has written to the Iowa *Homestead*, of Des Moines, a further refutation, stating that the article in the *Messenger* should "receive the condemnation of the intelligent grape and fruit grower of the State which it misrepresents." Mr. Bombarger further says:

That the grape raising industry in Ohio has been killed out by honey-bees or apiarists following their harmless pursuit, I assert is false, whether the assertion be made maliciously or ignorantly, and is proven so by the report of the commissioner of agriculture for 1886, page 116, where, commenting on "The shrinkage of yield in Ohio," he reports as follows: "The shrinkage of grapes in 1881, 1883 and 1885 was due principally to three facts which cannot be separated—rot, mildew, and the effect of the previous severe winter."

On page 117, is a table showing the shrinkage to be from 27,503,000 pounds in 1882 to 9,043,216 pounds in 1885.

As to any such devastation to grape crops made by honey-bees in Illinois, I have not in my annual excursions through horticultural reports, newspapers or bee-papers got the least hint, but have found that grape crops have suffered there of late years from the same cause as in Ohio. I would like very much to have the *Messenger* send me some of these papers and names of parties sustaining the loss.

The third paragraph of the above reads very much to me as if the writer does not know what he is talking about. If bees could pierce the grape skin they would not leave it any more than a child would nine sticks of candy to spoil in a package after taking one from it.

Close observation and repeated experiments show us that bees do not puncture grapes, but help themselves only to such fruit as is burst by weather or over-ripeness or punctured by hornets, wasps, or torn open by poultry and birds. I think if the writer watches closely another season he will find that birds do the work, and after they mangle the bunches the bees suck out the juices from the broken husks which he can make no possible use of.

Since he speaks of rot, it may be *Phoma Wicola* or black-rot, as described on page 115 and 116 of the report above mentioned. It places our portion of the State in the black-rot district.

I regard the honey-bee as one of my very best friends in grape and small fruit culture, and keep a small apiary in my smaller vineyard, which is so located that the path of the bees in the air to their best pasturage during the blossoming season is over my larger vineyard.

I find the bees so valuable in fertilizing fruit bloom that I not only encourage my neighbors to keep them, but intend doubling my stock in the near future. Their value is greatest whenever we have cool, wet weather during the fruit-bloom, and the winds cannot carry the pollen in dust form from flower to flower.

As to this writer's statement that grapes are worth more than bees, I disagree. I have harvested $36 worth of honey from 2 colonies, and over $20 from one colony of bees in one season, and left plenty of honey for wintering. I have generally found an off honey year a good grape year, and *vice versa*; and thiok grape growing and bee-keeping can be worked profitably together. I harvested nearly 1,000 pounds from my apiary vineyard this year. I found bees on a few bunches that jays and thrush had mangled. One need not be stung by these if after cutting off bunches, and while holding the stem between the thumb and finger he carefully, with grape shears in his other hand, clips off mangled grapes and lets the same fall with the bees thereon upon the ground.

I have had much trouble with jays and brown-thrush destroying my grapes. But since they are so successful in the destruction of injurious insects, I think it inhuman to shoot them. There are many though that do so. I have found that the report of a gun will keep them away; and further, that fire crackers, that are less expensive, if properly used will answer the purpose. It is no trouble to hire small boys, and *cheap*, too, to walk up and down grape rows, loaded with fruit, and fire them off. If you repeat this several times a day it is all that is necessary. By careful observation of the habits of the birds you can soon tell how often to fire them off. A small patch of grapes near a house can be protected from birds by one's family by the same means. If you have children it will be their delight. And it is well for workmen and pickers in vineyards to carry them, and when they see a bird among the vines to fling and explode a fire cracker beneath it. A cannon fire cracker exploded in the midst of a flock of jays does pretty effectual work. I would advise our friend above to have his family keep the birds away from his grapes, and not try to poison the bees, that want to take a little pay for pollenizing our flowers, in sipping up the sweet juices of mangled bunches that he can make no possible use of, and which are in that condition because he has not kept birds away from his vines. W. M. BOMBARGER.

Here is the testimony of a fruit-grower in the matter of the value of bees to grapes, which we commend to the careful perusal of all the enemies of bee-culture.

The Honey Market is thus described by R. A. Burnett, of Chicago:

Prices are lower than during November and December, and sales much lighter. It may be that the extreme cold weather of January has checked the demand, but the offerings are becoming heavier; and many commission houses, that during the fall months had no honey, now have several consignments which they are trying to dispose of on easy terms, if they find buyers.

Sorghum.—Now that sorghum is once more attracting the attention of farmers throughout the country, and has this time apparently come to stay, it is well to know that the Sorghum Hand Book, a valuable treatise on the cultivation and manufacture of sorghum, may be had free of charge on application to the Blymyer Iron Works Co., Cincinnati, Ohio.

Honey Trusts.—The daily papers are determined to have a "honey trust" somewhere. One day it is said to be formed in New York; then it is Chicago, which is to have it; then Boston. Each city paper palms it off on "the other fellow." The Boston *Record* of Jan. 17, gives this humorous and very unfair sketch of the "trust:"

The New York bee-keepers propose to form a "trust," nominally to regulate the size of the comb to be produced, but really to control the market.

When this honey trust is formed there ought to be some way found to get it to boycott glucose, and allow the bees to feed upon clover and other wild flowers. Dame Nature formed a honey "trust" a great many years ago, and the modern bee-keeper has been industriously at work to nullify its main provisions. The honey of the markets to-day bears less resemblance to the white clover honey made by the few colonies of bees it was the fashion for every farmer to keep a half century ago, than oleomargarine does to the butter our mothers produced with the old "dash" churn. It used to be—

> How doth the little busy bee
> Improve each shining hour,
> And gather honey all the day
> From every opening flower.

Now, however, under the directions of bee-trusts, that little type of industry is gorged with glucose, and forced to produce an article whose chief resemblance to the rich and delicious comb taken from the stray hives of old is its form.

What a happy day it will be for America when it can be said that the atmosphere of this free and enlightened country is too rarified for trusts. Trusts are the glucose of business.

It would be a happy day for America if the unprincipled "scribblers for the press" found the air too rarified to permit their existence! In lying, and writing "scientific pleasantries," they seem to revel, no matter what pursuit is injured, or who may be ruined!

There is no truth in the "Honey Trust" matter, and *we trust* that these scribblers will now turn their villainous attention to something else. If they must write such stuff, give some other pursuit a twirl! and *Give us a Rest!*

Krainer Bees.—S. W. Morrison, M. D., Oxford, Pa., sends us the following "History of Krainer Bees in the United States:"

I find that Carniolans were first known here as "Krainer bees," and that in 1879, a consignment of twelve queens labeled "Cyprians," reached A. J. King in New York, for some person with a German name in Iowa. These were not Cyprians, but Carniolans, as the shipper afterward confessed; the Iowa party probably thinks to this day he had Cyprians. I would like to have his name and address. Does any one know of an earlier importation of Krainer or Carniolan bees?

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

QUERIES & REPLIES.

PROTECTING HIVES FROM HEAT, AND COOL NIGHTS.

Written for the American Bee Journal

Query 513.—Will an outer shell, or cap, to protect the section-case from the sun and cool nights, pay for the extra expense and labor, with a section-case made of ⅞-inch lumber?—New York.

Yes.—J. P. H. BROWN.

No.—A. B. MASON.

Yes.—M. MAHIN.

No.—EUGENE SECOR.

Yes.—J. M. HAMBAUGH.

No. I have used such thin cases, and the bees worked well in them; but perhaps the nights here are not as cool as in New York.—G. L. TINKER.

I think not. I consider it a waste of material to make them.—J. M. SHUCK.

I have never been able to discover any advantage in such a shell.—R. L. TAYLOR.

No. A case made of ⅞-inch lumber, and painted, is all that is necessary. Use shade-boards in hot weather.—C. H. DIBBERN.

For the purpose mentioned, no. But you will need a cap before it is desirable to put the case on, and frequently after it is taken off.—MRS. L. HARRISON.

I think it might; but I prefer a super made of ⅞-inch lumber.—C. C. MILLER.

I think it will; at least it pays me in this locality to use an outer case to protect the sections.—H. D. CUTTING.

Yes; for you can use it for years, and it will be of advantage when the sections are taken away for feeding or for packing absorbents.—DADANT & SON.

I think it will pay well. I should prefer thicker lumber in the section-cases, if no outer case was to be used. —J. E. POND.

It might be an advantage in cool nights, but it would be no protection against the sun.—W. Z. HUTCHINSON.

I decidedly think not. Such an arrangement is in the way of a handy tiering-up system, and really does no good if it was free from other objections.—G. W. DEMAREE.

I doubt if it is of any use at all. I want no such cap. Just the section-case covered with a plain board.—A. J. COOK.

I should say not. I do not know just the climate of all parts of New York, but in this locality, latitude 42° (no mountains), we use and prefer from ½ to ⅜ of an inch, and an outer cap is a positive injury, as we know from repeated experiments. A shade-board is always worth ten times its cost of construction and manipulation. —JAMES HEDDON.

I think so, but many do not seem to think that way. As I use wide frames, I consider a cap a necessity.—G. M. DOOLITTLE.

A plain board for shade against the rays of the sun would be preferable. It is very doubtful if the "shell" would pay for the cost.—THE EDITOR.

DIMENSIONS OF HIVE AND NUMBER OF FRAMES.

Written for the American Bee Journal

Query 514.—1. What number of square inches of comb-surface should there be in a hive? 2. What distance should brood-frames be from centre to centre, the end pieces being ⅞ of an inch, and the top-bars 1 inch? 3. What are the inside dimensions of the frame you use? 4. What number of frames in each hive do you use?—Maryland.

1. That depends upon many circumstances. 2. One and ⅜ inches.—W. Z. HUTCHINSON.

1. Not less than 2,500. 2. They will work well if but 1¼ inches. 3. Eight and ½ by 16⅝ inches. 4. Eight, but prefer ten.—A. B. MASON.

2. One and ⅜ inches. 3. The standard Langstroth frame. 4. Eight for comb honey.—MRS. L. HARRISON.

2. From 1⅜ to 1½ from centre to centre. 3. Nine by 13¾ inches. 4. Nine frames.—H. D. CUTTING.

1. From 1,500 to 1,800. 2. As near 1 7-16 inches as you can get them. 3. Inside, 16⅜x8⅝ inches. 4. Eight to 12, depending.—J. P. H. BROWN.

1. A hive too large one season may be too small the next. 2. A little less than 1½ inches. 3. Nine and ½ by 11¼ inches. 4. Eleven usually; but I have hives as small as 7, and as large as 15. —M. MAHIN.

1. That will depend much upon the construction of the hive, and the manner in which it is to be used. 2. One and ⅜ inches. 3. The brood-frame I shall use hereafter has about the same capacity as the Gallup frame, but it is not so deep. 4. Eight frames.—G. L. TINKER.

1. It depends upon circumstances, and what you are working for. 2. One and ½ inches, or slightly less. 3. I use several sizes, but prefer the Langstroth frame. 4. For comb honey and cellar wintering, I prefer 8 frames, and often contract the latter to 6, when hiving prime swarms.—EUGENE SECOR.

1. From 2,880 to 3,000, if you measure both sides. We use still larger hives, and prefer them. 2. We prefer 1½ inches. 3. Ten and ¼ by 18 inches, old Quinby style. 4. Nine frames and two division-boards.—DADANT & SON.

I use the 8-frame Langstroth, and the 12-frame Gallup hives. The distance from the centre may vary a little—about 1½ inches. I use break-joint honey-boards. I have a few of the new Heddon hives.—A. J. COOK.

I use myself, and consider the ordinary Langstroth hive 14½ inches wide, inside, and holding 10 frames evenly spaced. The inside dimensions of my frames are 8½x17, outside 17⅜x9⅛. The top-bar is 19⅛ inches long outside.—J. E. POND.

1. A hive should be capable of holding from 8 to 10 square feet of comb. 2. One and ⅜ inches, or a little less, without reference to the size of the top-bars and end pieces. 3. I use frames 17¼x4⅝ inches, inside, and others 16⅜x8½ inside. 4. Sixteen of the former and 8 of the latter.—R. L. TAYLOR.

1. Perhaps from 10 to 16 square feet, varying at different times of the year. 2. One and ¼ to 1⅜; no matter about the width of the top or end-bar. 3. About 17½x8⅜ inches, but I should rather have the Standard Langstroth hive. 4. From 4 to 8, according to the time.—C. C. MILLER.

After long experience and many experiments, I have adopted a hive containing about 1,700 cubic inches, and think that about right for producing comb honey. 2. Frames should be 1⅜ inches apart from centre to centre. 3. The inside, or comb measure of frames in my new hive, is 6x20 inches, and I use 10 frames to a hive.—C. H. DIBBERN.

1. I use a brood-chamber containing 1,500 cubic inches, or near that. 2. I use them 1½ inches apart. 3. Ten and ¾ by 10⅞ inches square. 4. Nine, except with new swarms; with these I use only from 5 to 6.—G.M.DOOLITTLE.

1. I use 10-frame Simplicity hives at my home apiary. Single body 2,600 cubic inches. In my apiary abroad, I use the 10-frame Quinby, *a la* Dadant, hives. Single body 3,600 cubic inches. 2. Frames spaced 1½ inches from centre to centre. Inside dimensions of the Simplicity frame, 16⅜x8 inches. Of the Quinby frame, 17¼x10½ inches. All of my frames are cut ⅞ of an inch thick. In the Quinby, the dimensions are made for eleven frames, a division-board to occupy the space of one.—J. M. HAMBAUGH.

1. The Standard Langstroth frame contains 140 square inches of comb. Ten frames would give 1,400 square inches of comb. By employing divi-

sion-boards you can use from 1 to 10 frames in the hive to suit the size of the colony. 2. One and ⅞ from centre to centre of the top-bars. 3. Frames are gauged from the outside, to make them uniform in size. I use the Standard Langstroth frame, which is 17⅜x9½ inches, outside measurement. 4. Just as many frames as the size and strength of the colony demands; usually ten in the heated part of the season—G. W. DEMAREE.

My frames are of the Langstroth size, and present about 288 square inches of comb surface each. Eight frames to the hive gives me 2,264 square inches. Before storage begins I slip in another frame, making about 2,500 square inches of comb surface. This extra frame increases the strength of the colony and lessens the empty space in the brood-chamber at the same time.—J. M. SHUCK.

1. We have used extensively and prefer a solid brood-chamber of the following capacity and shape: Ten inches deep, 11½ inches wide, and 18⅞ inches long, inside measurement. In this we use 8 Standard Langstroth combs in suspended frames. This size and shape is not always the best for all purposes, and at all times; but as a compromise for all purposes and all times, we would not change it in the least. In my patented divisible brood-chamber hive new functions and results appear, and another capacity is preferable. We keep the length and width of the frames the same, and the combs the same distance from centre to centre. The combs are little longer, however, because the frames are tight-fitting in the cases. As the brood-chamber is horizontally divisible, and the halves practically interchangeable, there are two sets of 8 frames, each frame containing a comb 5 inches deep, and this brood-chamber is of the capacity of the 10-frame Langstroth hive, and from it we realize the advantages of both large and small, and shallow and deep brood-chambers. Now, our friend can make figures which will make my answer complete. —JAMES HEDDON.

1. The "times and seasons" control the amount of comb surface in a well regulated hive. 2. The space between the brood-frames should be a little less than 1½ inches from centre to centre. 3. I have used several sizes and kinds, but prefer the Standard Langstroth hive. 4. It contains 10 frames, but their use depends upon many conditions and circumstances.—THE EDITOR.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

BEE CONVENTIONS.

OHIO APIARISTS.

Fifth Annual Convention of the Ohio Bee-Keepers.

Written for the American Bee Journal
BY FRANK A. EATON.

The convention was held at Columbus, O., on Jan. 10 and 11, 1888, and opened at 9 a.m., President E. R. Root in the chair.

After the routine business of reading the report of the last meeting, and the reports of the officers, the first topic was announced for discussion, viz:

Bee-Conventions, How to Make them a Success, and their Value to Bee-Keepers.

A. I. Root—It pays to hold and attend conventions. It has been hard work to get me out. I owe a debt of gratitude to Prof. Cook and others, for getting me started; it does me good, and I am thankful that I have been induced to attend conventions. I learned of a new 5-cent comb-honey package at Manistee, by going to the Michigan convention, and getting out among folks last month. He spoke of the joint meeting of the horticulturists and bee-keepers of Michigan; of a two hours' address by a Professor—but when it came to the bee-keepers' time, they were up and alive, speaking briefly and to the point, and they had lots of intelligent fun.

Dr. Mason—It does not pay me in dollars and cents, for we can get the best thoughts and the valuable suggestions of our best men who attend the conventions, in the published reports of the meetings, but it pays socially.

Dr. Besse—It pays me by learning of new appliances, getting new ideas, mental culture, etc. I have got my pay already, and the convention has only just started.

H. R. Boardman—It pays the specialist financially, and always pays all socially.

N. Hutches—It has paid me well. I have kept bees 49 years, but I used to keep them in the old "box" and "gum" hives, but from attending conventions I have learned of bee-periodicals, and all that I know about keeping bees in the right way. I have 40 colonies in good condition; three years ago I cleared $300.

Dr. Tinker—I feel that it pays, and that these gatherings are of value and interest to the bee-keeping fraternity.

The general impression was, that it paid to attend conventions, and that those depending upon the published reports lost a great deal.

Dr. G. L. Tinker, of New Philadelphia, O., then read the following essay:

The Sectional Brood-Chamber, and its Advantages.

If it had been announced that I was to discuss the advantages of sectional hives, we should be dealing with a practical subject, one with which every bee-keeper in the land should be familiar. But the subject in hand is one in sore need of discussion, since, for some cause, very little has appeared in our bee-periodicals to enlighten us concerning it.

My first season's experience with sectional brood-chambers seemed very favorable. It happened to be an extraordinary season with us, and any hive with good management would have made a fair record. The past season was not a good one, and the defects of the new hive were apparent in many things. As compared with the Simplicity hives, of which I had seven in use, they were a marked failure. The bees in the Simplicity hives of my neighbors also did better. They not only had more bees all through the season, but had more surplus, and stored enough for winter, while the bees in the sectional brood-chambers had to be fed for winter.

I am reluctantly compelled to make this confession, partly because of my own disappointment in these hives, and partly because of the kindly feeling I entertained for the inventor.

I will give in detail my experience with the sectional brood-chamber, and my reasons for abandoning it. In the first place, the horizontal half of a brood-chamber is too small for a swarm, too small for a colony in the fall, and too small for wintering. It is too small for a swarm, since, with a queen-excluding honey-board, the bees will store much pollen in the surplus sections, and soon dwindle down to the size of a good nucleus. It is too small in the fall, since the bees are limited in space for stores and brood, and become too weak in numbers to winter to the best advantage. It is too small for wintering, since it will not contain sufficient stores to winter the colony and make a respectable start in brood-rearing in the spring.

Thus it will be seen that one of the cases of such a hive, by itself, is of no value in the hands of the practical honey-producer. It is required that both parts of the brood-chamber be used together to make any thing like a success of it. But if they are so used, the following difficulties arise: In the spring, the colony breeds up slowly, and without much attention will not get ready for the harvest. When at last it does get ready, if the honey-flow is extra good, the bees proceed to fill up the horizontal space

with brace-combs, and fill in with honey. The bee-keeper now thinks of interchanging the sections and bringing the brood to the top, but finds a strong lever is required to pry the hives apart. He quickly finds he can neither interchange the parts nor close the hives without killing hundreds of bees. They pile upon the broken surfaces, and a smoker is required in order to cut away the honey.

If robbers are troublesome, it becomes a serious matter, and the bee-keeper soon gives up the interchanging business as a bad job. It seems that bees do not build brace-combs to the same extent between whole brood-chambers, tiered one upon the other, as between these shallow cases. After all, there is no advantage from interchanging the sectional parts, since the bees will carry the brood upward and breed just as rapidly where no interchanging is done, as where it is. As the season advances, the bees put all the honey, or nearly all, in the upper case, so that the whole brood-chamber is required for winter.

The "shake-out" function is a good deal easier to talk about than to carry out in practice. With black bees and a little smoking it may be done, as it does not take much shaking to get them out. With Italians, Syrians and Cyprians, it is a very difficult matter, and the bee-keeper is easily persuaded not to try it again.

Finally, sectional brood-chambers are objectionable because of the extra expense of so much rigging for the amount of honey they contain, and there are no advantages to compensate for the extra cost.

The sectional, or storifying hive, will be the hive of the future. By this I do not mean a hive with a sectional brood-chamber, for one of the parts of such a hive is only half as large as the standard brood-chamber, whose capacity, as fixed by Fathers Langstroth and Quinby, is 2,000 cubic inches of space, which will contain, in suspended brood-frames, about 1,350 square inches of comb. I have already shown that the half of such a brood-chamber is too small to be of any practical use by itself. Nothing less than a capacity for 800 square inches of brood-comb is deserving the name of brood-chamber, and such a one may be successfully used. I mean instead, a hive made up of two, three, or more brood-chambers tiered up one upon the other, or, as our English brethren term it, "storified." As this latter term is more elegant and expressive, I shall use it.

"Storifying hives" have many advantages over other kinds of hives. I have no doubt that the popularity of the Simplicity hives is due more to this one feature than any other. We have had them in use in this country for many years, but it is only within the last few years that we have fully appreciated this admirable function. It is highly significant that our English friends are placing so much stress upon this point. Of late they have given no premiums to any but storifying hives.

In this connection I have but one suggestion to make, and I have done. It is, that, if the Simplicity hives were cut down to take a 7-inch brood-chamber, it would be nearly perfect as a storifying hive. It would then be just right for a swarm with a queen-excluding honey-board; it would be just right for wintering, and it could be "storified" at any time in the working season, to make a large hive according to the necessities of the bee-keeper. DR. G. L. TINKER.

H. R. Boarman—I have made and used sections and supers 5 inches deep before I ever heard of such things.

A. I. Root spoke of queens laying in a circle, and thought that deeper frames like the Langstroth, were more desirable than sectional ones, on that account.

H. R. Boardman—I have known a cross-bar in the centre of a comb, to stop the queen from laying on the opposite side. I cannot look favorably upon the sectional hive; perhaps from prejudice, but I think not.

The Secretary—I used a sectional hive last season, but I find enough disadvantages to deter me from changing the present mode for it.

E. R. Root—What about the thumb-screws? Is there not a difficulty in the manipulation of frames?

Dr. Tinker—I find no trouble to manipulate Heddon's frames, after getting the first one out; but, frequently, that is quite difficult.

Dr. Mason—I do not think that the sectional brood-chamber is a practical success. I like to have my frames so that I can lift them out and look at them. What are the advantages of reversing?

Dr. Tinker—The only advantage of reversing, is to get the frames filled with comb; if not filled, queen-cells will be built at the bottom, during swarming time; but if filled, they will be built along the centre.

E. R. Root—I think it quite an advantage to have full frames of comb.

A. S. Goodrich—I have had experience with full frames; used wired frames, and let the foundation come to the bottom-bar.

H. R. Boardman—Comb fastened at the sides, is sufficient for extracting.

A. S. Goodrich—If three sides fastened, make the combs quite secure, will not four sides fastened make them more so?

Dr. Tinker—I like to have the combs fastened to the bottom-bar nearly the whole length, leaving holes enough for the bees to crawl through.

G. R. Morris—When the foundation is fastened to the bottom-bar, the bees cut it out.

H. R. Boardman—I do not want combs fastened to the bottom-bar, as the combs will be sure to sag or bulge just above the bar. Reversing the brood-chamber is entirely impracticable. In reversing in hot weather the comb would be soft and drop over.

Dr. Tinker—I can reverse brood-chambers in April, and have the frames filled without danger of falling over.

Henry Bates—I want the combs down to the bottom-bars, and no wires.

Dr. Mason—Do you run for comb honey?

Henry Bates—Yes.

Dr. Mason—You have no experience then in handling combs?

Adjourned to 1:30 p.m.

The afternoon session was called to order by President Root, and the topic for discussion was,

Bee-Keeping in Connection with other Pursuits.

Frank A. Eaton led the discussion as follows:

Bee-keeping as a pursuit is of such magnitude, and requires so much attention and thought, that to couple it successfully with other avocations, requires rare business qualities and good judgment. The question as stated leaves it open, as to whether bee-keeping shall have the dignity of business, or be simply an adjunct, or a recreation. I take it that the question this convention chooses to consider is the keeping of bees in such numbers as to raise it above a mere play thing.

To keep bees at all, means time and work, and as the number of colonies increase, so must the other business be neglected, and those professions and callings which afford and give the most time and leisure are the best suited to go hand in hand with bee-keeping.

Perhaps the greatest and best idea of how bee-keeping can be carried on in connection with another pursuit would be to cite my own case. I manage from 75 to 150 colonies of bees each season; they require my entire time and attention from March until October. I prepare my hives, sections, and in fact make all preparations for the busy season during March and April, as I ship bees and queens, beginning by May 1.

I also run my apiary for both comb and extracted honey (principally

comb), and in that my time is most busily occupied until the first of October. Then I aim to get my honey nearly all marketed by the first or middle of November.

The bees have now occupied my entire time from 8 to 8½ months of the year, leaving from 3½ to 4 months that bee-keeping alone cannot fill.

Having been in the music business prior to my keeping bees, it gave me considerable experience in this line, so that at the close of the bee and honey season, I lay in a stock of pianos and organs, on consignment, for the holiday trade. I realize several hundred dollars each season from those odd months, and thereby fill in the year. The supply business goes well with bee-keeping at all times of the year.

Small fruit and market gardening are well suited to bee-keeping, but as the care of each come about the same time, help will be required. However, the benefit bees do to the fruit-bloom, in the way of fertilization, more than pays for any extra help needed.

Another pursuit that is generally conceded to go hand in hand with bee-keeping, is farming, but I am of the opinion that this is not true. I do not believe that any man can be a successful bee-keeper and farmer at the same time, as the requirements of each are numerous, and require the most care and attention at the same time. If one is cared for, the other is sure to be neglected.

Dr. Mason—When I farmed I made a success of both.

A. I. Root—It is not best to put all your eggs in one basket. I recollect how a man once wrote to me for prices of 40 colonies of bees. I advised him to buy only 2 or 3; and, better still, only a nucleus, and stick to his other business. He accepted the advice, and finally made a success of bee-keeping.

C. E. Jones—I cannot quit farming nor keeping bees; they go well together. I get everything ready for the bees in the winter. There is more profit in my bees than in my farm, but I want both.

A. S. Goodrich—I made a success of farming, but failed with bees, except to get honey enough for home use.

N. Hutches—I made a success with the bees on a 200-acre farm. I would rather be a bee-keeper than a United States Senator.

A. I. Root—If a man is enthusiastic enough, many can make a success of both.

A. Benedict—I have made a success of bee-keeping and general farming for 45 years.

Dr. Mason—I have a neighbor that has 100 colonies of bees and a good farm, and makes a financial success of both.

S. R. Morris—I started in keeping bees and farming, but made a failure of it until I had help; now I make a success of both.

S. Hains—I farm and keep from 50 to 100 colonies of bees. I want both. The best my bees have ever done was to give me 150 pounds of extracted honey per colony.

The next topic was entitled, "Bee-keeping as an exclusive pursuit," and an essay by Dr. C. C. Miller was read.

H. R. Boardman—If a man puts his whole soul into bee-keeping, he will succeed, but he must not divide his soul up into two pursuits.

Dr. Mason—I differ with Mr. Boardman.

H. R. Boardman—By putting my whole energy into my business the past year, I succeeded in getting a fair crop; had I done anything else in connection with bees, I would have failed.

A. I. Root—I believe that if a man has his bees in first-class condition, and makes an effort by sowing, he can get a good crop in any season.

Bee-Pasturage.

C. E. Jones—It will pay to keep 100 acres of land to farm, and 100 colonies of bees, and sow for honey production. I have sown two acres of sweet clover on good land and made it pay.

H. R. Boardman—I have been in the habit of furnishing my neighbors Alsike clover seed at cost. They make a success with it, as a grass crop. In this way I have succeeded in getting over 200 acres in my neighborhood.

S. R. Morris—I furnish Alsike in the same way.

A. S. Goodrich—I have the hay to sell to my neighbors when they get out, and they sow the seed.

Dr. Mason—I think the Chapman honey-plant is superior to any other, and will pay much better than sweet clover. The honey tastes and looks very much like linden.

A. I. Root—The Chapman honey-plant yields day and night, and is a pure sweet; but I doubt if it pays to sow 2 or 3 acres of good land with any plant that is good for honey only. I think, however, it would be a good plan to have the commissioner of agriculture distribute the seed among bee-keepers.

C. E. Jones—Buckwheat pays, but must be sown at the right time and in the right way.

On being questioned by Dr. Mason, he said, sow in April on good, well-prepared soil, and roll well. It blossoms with white clover, and does not injure clover honey. It gets ripe, and should be sown again about June 20. I get two crops of honey and seed on the same ground in one season.

Dr. Mason—Two years ago there was buckwheat near my apiary. The bees mixed the buckwheat with my white honey, and spoiled the whole crop.

C. Culp—My father had his neighbors sow considerable buckwheat one season, and got a good yield; but the honey was dark and strong, and did not sell well.

The Election of Officers,

for the ensuing year, resulted as follows: President, Ernest R. Root; Vice-President, H. R. Boardman; Secretary and Treasurer, Frank A. Eaton.

On motion a cordial invitation was extended to the North American Bee-Keepers' Society to change the location of its next meeting to Columbus, Ohio, during the Ohio State Centennial Exposition between Sep. 4 and Oct. 19, 1888.

It was voted that when this Convention adjourns it shall be, to meet at the same time and place, and also with the next meeting of the N. A. B. K. Society.

EVENING SESSION.

Dr. H. Besse opened the next topic on "Wood *vs.* Tin Separators; is it profitable to dispense with either?"

A. I. Root—By fastening foundation at both top and bottom, you can dispense with separators.

H. R. Boardman—I tried some of the Heddon cases without separators and failed; then I tried broad frames, with separators, and succeeded. The loss of time in looking after the sections, without separators, amounts to more than the loss of honey with them. I prefer wooden ones. I leave my honey on until the flow is over. I very much favor saving and using the partly-filled sections of the previous year.

Dr. Tinker—I find that the bees will fill and finish partly-filled sections from the previous year. Separators are a hinderance to sections without side openings, but I want separators with side-opening sections.

Mr. Loomis, an editor, was present, and being called upon, gave a brief talk, and asked as a novice, "Must I try all these things and find out?" Several in reply said, No; consult good bee-keepers, and read bee-periodicals.

Question-Box.

1. Which of the following methods of working bees are the most profitable; selling queens, bees, or producing comb or extracted honey? A. I. Root—Whichever the market demands, or all four, if you have a demand. It would be impossible to decide definitely.

2. How can swarming be best controlled, when working for comb honey alone? H. R. Boardman—By shaking bees into empty brood-frames with sections.

3. Which is the best mode of ripening extracted honey; artificially or with the bees? Dr. Mason—Leave it with the bees.

4. How old may queens be kept and remain profitable? A. I. Root—Sometimes four years, but not often. A. Benedict—The more space the queen uses the shorter time she will live.

5. Is it best to assist the bees in cleaning up their hives in the spring, or should they be left to do their own work? Frank A. Eaton—Help them, if they need help.

6. Give a remedy for spring dwindling. H. R. Boardman—Winter properly.

7. Should colonies wintered in cellars be put back on the same location they occupied in the previous season? A. Benedict—Set them where they were the previous season. Dr. Besse—Set them anywhere, at night. H. R. Boardman—You cannot tell how the weather may be the following day. If set out at night it might prove disastriously. Dr. Mason—Set them out anywhere. A. S. Goodrich—Set them out where they were. I lost 30 colonies by setting them out in a haphazard way. S. R. Morris—Put them where they were.

8. Which is best, to hive new swarms on full frames of foundation, drawn out comb, or starters only? Dr. Mason—On starters, with surplus above, and a queen-excluding honey-board.

9. Can worker bees be reared in drone comb? A. I. Root—Yes, in some instances.

10. Has the queen full control of the fertilization of the egg? Dr. Tinker—Yes.

11. Is the progeny of a drone-laying queen of any value as drones? A. I. Root—Yes. Dr. Tinker—No. A. Benedict—No.

12. What should be done with colonies that get damp when wintered in the cellar? A. I. Root—Let them alone. Dr. Mason—Give warmth and ventilation.

A. S. Goodrich asked, what ails my bees? Half of them are dead, and the balance will die as soon as they get strength enough (laughter). I fed them up for winter on granulated sugar syrup, with a little tartaric acid in it. A. I. Root—What sort of vessel did you mix it in? A. S. Goodrich—Galvanized iron. A. I. Root—They were killed by poison from the action of the acid on the zinc. Adjourned.

WEDNESDAY MORNING SESSION.

The first topic was, "Extracted honey; its production, and the best method of marketing it," by Dr. A. B. Mason.

The Doctor having urged in his essay the putting of nothing but the best extracted honey on the market, A. I. Root asked him what he would do with the bad honey? He replied, make it into vinegar.

H. R. Boardman—I started in with producing extracted honey, but had to conform to my trade.

E. R. Root—Can candied honey be melted and remain as good as before? Dr. Mason—Yes; but great care must be exercised. Messrs. Boardman and Morris thought not, but Frank Eaton and others agreed with Dr. Mason.

An essay by Chas. F. Muth was then read on, "The commission man and his relation to the honey-producer, as affecting the sale and price of honey."

A. I. Root—We cannot spare the middle-man, especially such a broad-hearted man as C. F. Muth.

C. E. Jones—The middle-men are all right; the trouble lies with the producer.

The assocation passed a vote of thanks to Dr. C. C. Miller and Chas. F. Muth for the valuable papers they furnished in their absence.

WEDNESDAY AFTERNOON SESSION.

H. R. Boardman then read an essay on "In-door *vs.* out-door wintering of bees, and the advantage of the former."

S. R. Morris asked Mr. Boardman if it is advisable to set bees out during the winter for a flight?

H. R. Boardman—Sometimes, but the bee-keeper must be the judge.

S. R. Morris—Will they dwindle in the spring worse when wintered in the cellar? Mr. Boardman—Not as badly.

FRANK A. EATON, *Sec.*

[As the essays are lengthy, they will be published hereafter as our space will permit.—ED.]

NEBRASKA.

Report of the Proceedings of the Nebraska Convention.

Written for the American Bee Journal

BY J. N. HEATER.

The bee-keepers of Nebraska assembled in annual convention Jan. 11 1888, at Lincoln, Nebr. The convention was called to order at 3 p.m. by the President, R. R. Ryan, who presided throughout the session with H. N. Patterson as Secretary. Mr. Emmerson T. Abbott, of St. Joe, Mo., was made an honorary member.

Messrs. Heater and Tower were appointed a committee to examine the reports of the Treasurer and Secretary, after which the President made an address upon the aims and needs of the bee-keepers of the State.

The election of officers was postponed until evening.

Messrs. Muir, Johnson and Heater were appointed a committee to consult with the State Horticultural Society to see if arrangements could be made for holding a joint session of a half day with that society.

The work of the meeting was then given up to asking and answering questions. Under this head the following questions were fully discussed: Is there such a thing as a high-bred bee? What is the best manner of uniting weak colonies for wintering? Do the moths ever trouble the Italian bees? Is there any rule or sign by which you can tell when bees are robbing each other? What is foul brood? How long will two queens work together in the same hive? After these discussions, the convention then adjourned until 7 p.m.

EVENING SESSION.

"What are the essential points in locating an apiary?" was discussed by J. S. Hodges and J. L. Blanchard.

The speakers favored a southeast slope located near or in a timber, with water near at hand, and plenty of honey resources in the flight of the bees.

This question was then opened to all for discussion, and a number of the members gave their experience and their preference of location. There was a diversity of opinion, some favoring the fronting of the hives to the east, and others to the south. The general opinion was, that an orchard with trees planted about 8 feet apart, and kept well cut back, was the best location.

E. Tower made a few remarks upon the question: "How much comb foundation, if any, should be used?" He said there was no question as to the benefit of the use of comb foundation. The principal question, and the one upon which there was the most division, was that of what quantity should be used. Mr. Tower thought that all beginners should use full sheets.

Mr. Trester said it was used by bee-keepers because it was cheaper than allowing the bees to make it. He was in favor of using all that could be put in the hives, as was also Mr. Heater, who recommended the use of heavy foundation, thus supplying the whole demand, and relieving the bees of all work in secreting this wax.

The committee appointed to confer with the Horticultural Society in relation to holding a joint meeting with the bee-keepers, reported that the Horticultural Society had gladly accepted the invitation, and would be present at the afternoon session to-morrow, to hear the paper of Prof. Bessey, on "Honey Plants."

Adjourned until 9 a.m.

SECOND DAY.

The convention was called to order at 9 a.m., and after the usual business, a communication was read upon a "National Organization," from John Aspinwall, Barrytown, N. Y.

"How does bee-keeping pay compared with other occupations?" was the subject of general discussion among the members. It was the general opinion that bee-culture could be made profitable if the proper means were adopted.

J. N. Heater read a communication from E. M. Hayhurst, of Kansas City, upon "Results of spring work with bees." This closed the morning session.

AFTERNOON SESSION.

A joint meeting of the bee-keepers and the Horticultural Society was held in the afternoon. Prof. Charles E. Bessey, Ph. D., professor of botany at the university of Nebraska, read an essay upon "Some honey-plants of Nebraska," in which he said:

If we carefully examine the structure of a nectar-bearing flower, we find invariably that the nectar glands have a definite position in relation to the organs of fertilization. While there is an almost infinite variety in the details, yet it may be stated in a general way that the nectar is always so placed that insects in gathering it are compelled to come in contact with one or more of the organs of fertilization. The nectar is the bait by means of which insects are made to visit the flowers, in order that the pollen may be carried from plant to plant. This is its only use, as has been abundantly proved by wide observation of many careful students of this department of nature.

Now, inasmuch as all flowers have to be fertilized, it might be assumed that all flowers must have nectar. Such, however, is by no means the case. If we examine carefully the flowers of plants, we find that a great many have the pollen carried from plant to plant by the wind. Such are said to be wind fertilizers, and observation has shown that in all instances they are destitute of nectar, or nearly so. Again, there are some plants which have such a structure that the pollen of its stamens comes easily into contact with their stigma, and thus fertilization is effected without the intervention of any outside agents. Such are called self-fertilized flowers, and here again the nectar is absent. Finally we have the plants whose numbers can only be expressed by tens of thousands, in which the structure is such that fertilization can only be secured by the intervention of insects, or in some cases of nectar-loving birds, as the humming birds.

In these plants which depend upon insects for carrying the pollen from flower to flower, it is found that some parts of the floral mechanism is peculiarly adapted for the purpose. Generally there are such structures as compel the insect to enter the flower in a particular way, and thus it touches the pollen-sacs with some part of its body, and carries some of the pollen to the next flower it visits. This it does while trying to secure the honey, and the contrivances to secure this result in different plants are among the most remarkable and interesting in the whole vegetable kingdom.

Rev. E. T. Abbott, of St. Joe, followed Prof. Bessey with a few practical remarks upon bee-culture and honey plants.

Mrs. Heater read a very concise and carefully-prepared essay on "How to prepare honey for display and the market," for which the association very gracefully passed resolutions of thanks. The fact was then brought out that Nebraska honey commanded 2 cents more per pound than honey produced in Iowa and other eastern States.

The question whether honey should be judged from appearance or taste, was discussed at some length, and was compromised by the decision that both appearance and taste should be taken into consideration.

"Fall Breeding" was the subject of a very interesting paper by Mr. Heater. The success of bee-culture depends largely upon the fall breeding. Mr. Heater advised feeding in the fall, but not later than the latter part of September. The young bees should have their cleansing flight before going into winter quarters.

This subject was discussed in its different phases, and the meeting adjourned until evening.

EVENING SESSION.

Only a few members braved the storm and attended the meeting. These did not lack enthusiasm, however, and entered heartily into the discussions. The questions which were brought forward were: "Can the swarming impulse be controlled; if so, how?" and "Which is best, to divide for increase or natural swarming?"

The following officers were elected for the ensuing two years: President, M. L. Trester; Vice-President, R. V. Muir; Secretary, J. N. Heater; Treasurer, T. Johnson.

THIRD DAY.

The closing session was mainly occupied by the reading of a very interesting essay by Rev. E. T. Abbott, of St. Joseph, Mo., on the "Honey Bee; its anatomy, the products of its operations, and its relations to flowers and plants." [This essay will be published as soon as we can find room for it.—ED.]

The committee on examination of the sample of honey brought in by a citizen of Lincoln, reported as follows:

"Your committee, to whom the jar of California honey put up by J. H. McDermott, of Chicago, was referred, pronounced it in their opinion impure and unfit for family use; and think that the man should meet with public condemnation for putting such an article on the market as honey."

The meeting then passed resolutions of thanks to its retiring officers, and to Mrs. J. N. Heater, Prof. Bessey, and Rev. E. T. Abbott, and extended to the latter a special invitation to meet with the society at their next annual convention.

Adjourned to meet at Lincoln in the second week in January, 1889.

J. N. HEATER, *Sec.*

VERMONT.

Convention held at Burlington, on Jan. 18 and 19, 1888.

Written for the American Bee Journal

BY MARCIA A. DOUGLAS.

According to programme, the convention was opened on Wednesday afternoon; the President, P. E. Abbey, in the chair.

After reading the minutes of the last annual meeting, the Constitution, etc., the convention listened to a poem entitled "Vermont Bees," by F. H. Wheatley, of St. Johnsbury, Vt., which was followed by a discussion, the general opinion being that there are two races of what are called "black bees."

One member related a visit to a neighbor's apiary who complained that a part of his bees were not good honey gatherers, but were lively and cross, making it difficult to manage them, while others in the same yard were of a more peaceable disposition, and better workers. On examination it was found that the former were small black bees, while the latter were the brown German bees.

Mr. A. E. Manum was asked what he thought of the Holy Land and Cyprian bees. He said he was favorably impressed with the Holy Land variety, but not with the Cyprians, because they are too cross.

One member stated that in one season his Italians produced 30 pounds per colony more than the blacks; and the stings were more numerous from black bees.

Mr. Manum was asked if he had Italians that would work on red clover. He replied that he had, and gave some proofs in his experience; he thought that they would not work as well in

some seasons as others. He was asked if he did not think that the tubes of the clover blossom was shorter in some seasons and localities than in others. He said the soil, atmosphere and other causes made a difference.

V. N. Forbes had known German bees working on red clover one season, but not in others, on the same field.

Spreading Brood in the Spring, etc.

Is it advisable to insert empty combs in the centre of a brood-nest for the purpose of spreading brood in the spring? This topic was opened by F. M. Wright. His experience had proved that if done at all, it must be done with great care. It might be advisable when the weather becomes warm, but he would "go slow." He inserted at one time two combs into a strong colony of bees, and it gave them a setback that they did not get over that summer.

Mr. Manum stated that he lets the brood-nest alone; keeps the brood-chamber contracted, and the bees warm. Sometimes he put a comb of honey next to the brood-nest on the outside. He was asked if he practiced feeding meal or salt to bees in the apiary, and replied he had done so in former years, but did not now, and could not say that it did any good.

Preventing Increase.

The following question was led by A. E. Manum, "What is the best method to prevent an increase of colonies?" He had not found it possible to prevent swarming by cutting out queen-cells; he could get more comb honey by allowing the bees to swarm; he then puts two or three swarms together, allowing all the queens but one to return to the old hive with a portion of the swarm. He has prevented increase by hiving swarms on a few combs, using a queen-excluding honey-board, giving plenty of box-room, and then destroying the old bees in the fall, as they would be likely to die before spring anyway. Another way is to take the queen from the colony, and return her after 15 days, cutting the queen-cells out in the meantime.

H. L. Leonard did not think it possible to prevent swarming, but it could be checked; he would give plenty of box-room, and practice the "tiering up" plan; he would compel bees to care for themselves as much as possible, and would plan to save time as much as any other item.

EVENING SESSION.

The following committees were appointed by the chair: On Nomination—H. L. Leonard, O. J. Lowery, and V. N. Forbes. On Awards—J. W. Smith, P. D. Percival, and M. F. Cram. On Resolutions—F. H. Wheatley, and Miss Marcia A. Douglas.

Bee-Keeping as a Business.

"Bee-Keeping in Vermont—does it pay?" This topic was opened by R. H. Holmes, who discussed the question under the following heads, as given by N. G. Webster, who was to lead the discussion, but was not present. Its hindrances are a poor location; our long, cold winters; and lack of a thorough knowledge of the business. A person must have good judgment, and plenty of common sense.

Its expenses and profits were set forth in an essay by J. H. Larrabee. He thought the expense of an apiary of 100 colonies of bees, with all the necessary fixtures and utensils for carrying it on successfully, with the addition of a $200 honey-house, would be worth $1,000. The average yearly expense he placed at $620, which included labor, interest, running expenses, etc. The average yearly income was placed at $800, leaving a net income of $180 to represent the risks of wintering, disease, the shipping of honey, etc.

The question was closed by H. L. Leonard under the head of "Bee-keeping as a business." He thought nothing was worthy the name of business that would not pay expenses and leave a margin for profit. Bee-keeping would do this. It has its "off years," when it will not pay, like all other kinds of production; but no more so than others. There are but few locations in Vermont where bee-keeping cannot be made to pay to a greater or less extent. There are less enemies to bees than in almost any other section of our country, and the average yield per colony is larger. Bee-keeping in Vermont has paid and will pay, but it is essential that one understands the business and management of the apiary.

Mr. J. Van Deusen, of Sprout Brook, N. Y., said that the formation of the hills and valleys of our State was favorable for honey production, as we would be favored with early and late bloom of the honey-producing plants.

This discussion was followed by an essay by Mrs. F. A. Wolcott, entitled,

The Pleasures and Difficulties of Bee-Keeping.

She thought there was pleasure in seeing the clean, white sections of honey taken from the bees, by some one else, also in preparing it for market, but there were some things not so pleasant; and she related an instance of attempting to hive a refractory swarm, and receiving 33 stings as a reward for her labor. She also spoke of the expenses of the business keeping in advance of the profits for the first few years, which have to be met first.

Miss Marcia A. Douglas read an essay on the question:

Should Women Keep Bees and Join the Bee-Keepers' Association?

She could speak from experience, that while there was much hard labor in connection with the business, she she saw no reason why a woman could not keep bees, to a greater or less extent, as successfully as the sterner sex, provided that she was adapted to the calling, and in love with it. If men were benefited by associations and interchanging of ideas and methods of work, why not women?

THURSDAY MORNING SESSION.

The Secretary's report showed the present membership to be 139; an increase of 30 since the last report. The Treasurer's report showed that the expenses of the past year has been $33.12, and the receipts, including the amount in the treasury, $24.02, leaving a deficiency of $9.10, which was made up by contributions from those present.

It was voted by the members of the association that Art. 5 of the Constitution be amended to read as follows: "Any person may become a member of this association by giving his or her name to the Secretary, and paying annually to the Treasurer a sum not exceeding one dollar, except ladies who shall be admitted free." It was voted that the members be required to pay 50 cents each, to defray expenses for the coming year.

The following were appointed a committee to revise the present Constitution, and bring it before the consideration of the next annual session, P. C. Abbey, H. L. Leonard, R. H. Holmes, and Miss Marcia A. Douglas.

The committee on nominations reported as follows: For President, R. H. Holmes; Vice-Presidents, F. M. Wright, D. S. Hall, and J. E. Crane; Secretary and Treasurer, Miss Marcia A. Douglas They were then elected as officers for the ensuing year.

The committee on awards reported the exhibits made, and the committee on resolutions presented several resolutions, which were passed. Then the newly elected officers assumed their respective positions, and the next topic was opened by F. H. McFarland, of St. Albans, on

Is it Profitable to Use Full Sheets of Foundation in the Brood-Chamber?

He said it is a waste of wax to use full sheets, although more honey may be secured by their use. In full sheets, the foundation is sure to sag and cause elongated cells near the top, which the queen is slow to occupy. Mr. Lowery advocated the use of starters. Mr. Leonard would use full sheets, even if

they were not wired. Mr. Percival uses full sheets in the middle of the brood-nest with starters on the frames at the sides.

In reply to this question, Mr Manum said if old combs and starters are placed alternately in the brood-box the combs will be bulged. He discouraged the general use of foundation, but thought that the specialist could not afford to do without it.

Mr. Davis, on account of expense, last year tested the use of starters, and being satisfied with the results, tried it again.

As to the width of the starters, some thought an inch better than three or four, while others preferred the latter width.

The Question Drawer.

1. What shall we do with unfinished sections at the close of the honey season? Mr. Manum advised to extract them or feed to the bees between fruit bloom and honey-flow. If candied, uncap and place them over the brood-nest, to be cleaned by the bees.

2. Is it advisable for bee-keepers to join the Bee-Keepers' Union? Mr. Manum said, yes, by all means. It is on the same principle as insurance on buildings.

3. Is it profitable to use a bee-tent to place over the hive during manipulation to prevent robbing? Mr. Leonard said yes.

4. Is comb honey injured by freezing; if so, in what respects? Mr. Manum said that the flavor is unchanged, but the caps are sometimes injured, and the combs cracked.

5. Are bees ever smothered from having the hives covered with snow? Mr. Manum answered no; the more snow the better. When a thaw comes clear the entrance. Dead bees should be removed, as sometimes they clog the entrances, thereby smothering the bees.

The discussion of "Marketing Honey" was participated in enthusiastically. Most of the reports were laughable as well as lamentable. The convention adjourned to meet at the time and place designated by the executive committee.

MARCIA A. DOUGLAS, *Sec.*

CONVENTION NOTICES.

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Apr. 24.—	Des Moines County, at Burlington, Iowa. John Nau, Sec., Middletown, Iowa.
May 5.—	Susquehanna County, at New Milford, Pa. H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER-BOX

Bees are Quiet, etc.—Geo. G. Scott, Wadena, ♁ Iowa, on Jan. 18, 1888, writes:

My 34 colonies of bees are wintering well in the cellar. Thus far they have been as quiet as I ever knew them to be. The temperature is from 38° to 48°. My surplus honey last season was about one-third of a crop, and I was pleased to get that much. Last Sunday the mercury was 44° below zero at sunrise, and again at midnight.

Sections and Separators.—Chas. W. Bradish, Glendale, N. Y., on Jan. 23, 1888, asks the following questions:

As I intend to change my surplus arrangement from two-pound to one-pound sections, and as I have never used any of the latter, I would like to ask: 1. What kind of one-pound sections is the best, all things considered? 2. What advantage are 4 bee-spaces? 3. If separators are used, what width is the best? My bees are now all in good condition. All are alive, and the temperature is from 35° to 40° in the cellar.

[1. The one-piece sections have entirely run all others out.

2. The general opinion expressed by the largest honey-producers at conventions and elsewhere, is that they are of but little if any advantage.

3. Two inches.—ED.]

Extracts from a Diary.—James F. Johnson. Salem, ♀ Mo., on Jan 28, 1888, writes:

The New Year came in warm and cloudy. January 4 was warm and pleasant. The bees had a jubilee, the thermometer being 64° in the shade. The bees carried in water. On Jan. 12 the weather turned cold and stormy. On Jan. 14 we had a blizzard, which left several inches of sleet on the ground. On Jan. 25 the bees had a chance to fly; the sleet and ice melting fast, and the bees looked clean and bright. On Jan. 28 the weather was still warm and pleasant, and the bees are beginning to prepare for spring.

In reply to L. G. Reed, on page 11, I extract the following from my notes on "Plants for Honey:" "As a substitute for white clover and basswood, —mustard and sunflower. The black walnut tree is also valuable."

Quite Warm.—S. J. Miller, Topeka, ♌ Kans., on Jan. 28, 1888, writes:

My bees had a fine flight to-day, it being 70° above zero, and it was uncomfortable in the house unless the windows were raised. I think our winter is broken.

More than Pleased.—F. M. Taintor, Coleraine, ♌ Mass., on Jan. 30, 1888, has this to say about the BEE JOURNAL:

I am more than pleased with the new appearance of the BEE JOURNAL. I thought it was perfection before, but now it comes in even a newer and neater appearance, and is a great honor to its publishers. I feel proud in showing it to friends, and at one dollar a year I do not see why every person, keeping even one colony, can afford not to have it.

Good Results.—F. H. Benton, Renovo, ♁ Pa., on Jan. 28, 1888, says:

I commenced the season with 10 colonies of bees; increased them to 13, and I got 500 pounds of comb honey, and 100 unfinished one-pound sections. I winter my bees on the summer stands; they each had from 40 to 60 pounds of stores to winter on.

Bees Uneasy in the Cellar.—Robert Cissnan, Hageman, ♌ Ind., on Jan. 31, 1888, writes:

I have kept bees in this locality for ten years. The season of 1887 was the poorest that I have experienced. From 115 colonies in fair condition in the spring, I have taken about 100 pounds of comb honey, and increased them to 140 colonies. I had to feed them 300 pounds of sugar for winter stores. They went into winter quarters in light condition. I will have to feed them in the spring. I have wintered my bees in the cellar for the last three seasons, with success. They are not wintering very well now; they are uneasy and crawl out of the hive in great numbers; bloating up as large as their skins will hold. I do not know the cause; it may be that I put too much tartaric acid in the sugar syrup. One-half of the bees in this locality,

kept by small bee-keepers, will starve to death before next spring. I will try to take good care of my bees, hoping that next season may be more favorable. The AMERICAN BEE JOURNAL is a welcome visitor. I have read it with interest for the last eight years, and I could not get along without its information.

[Most likely you mixed your syrup in a vessel made of galvanized iron, and the bees were poisoned from the action of the acid on the zinc.—ED.]

Got Good Prices for Honey.—H. H. Rosebrock, Owatonna, ♀ Minn., on Feb. 1, 1888, writes:

My bees wintered well in 1886 and 1887. I put in the cellar 90 colonies in the fall of 1886, and took out 90 in the spring of 1887. No "spring dwindling;" propects were never better, but the dry summer made my honey crop 1,000 pounds of extracted, and 1,000 pounds of comb honey. I have 105 colonies in the cellar now. The bees in my new Heddon hives were the first to swarm last spring, and I like them well for comb honey. I sell my honey at home mostly. The editor of the BEE JOURNAL has my thanks for assisting to get better prices for honey.

Bees and Red Clover.—B. F. Fritz, Fulton, ♀ Mich., on Jan. 27, 1888, writes:

In the BEE JOURNAL of Nov. 17, 1886, page 731, Joseph Beath, of Corning, Iowa, says, if any one's bees worked on the first crop of red clover he would like to know it. Mine did last June, in large numbers. They were working there when we commenced haying, and were there a week later when we finished. It must have been heavily laden with nectar, as I observed a bee on a pale blossom. The bright sun shone on it, and I could see the tongue in the tube, and it did not go over half way to the bottom. My bees did fairly well last year. I have 12 colonies, all wintering well but two colonies.

Father Langstroth.—Mr. James Heddon, Dowagiac, ♀ Mich., on Jan. 26, 1888, wrote as follows:

It was with much pleasure that I viewed our genial and genius-faced friend on page 53 of the AMERICAN BEE JOURNAL. It was pleasant to read Mr. Pond's sketch of his life-work, but one moral point, one which is of vast importance to our great benefactor, seems to have been over-looked, viz: Why should one who did so much for his brothers, now have so little to show for it? What is the trouble? Has he been profligate, spending his money as a whirlwind spends the leaves of a forest, or did ingratitude rob him? Some of us have paid him $10 each as a small reward for the great benefits we have received, but is it not a truth, and one that should never be left out, when his history is written, that through the action of a few designing men, that this great benefactor and good man was robbed of the due reward of his labors?

[It has been repeatedly stated, that he was defrauded.—ED.]

Support the Union.—F. A. Snell, Milledgeville, ♎ Ills., on Jan. 29, 1888, writes:

If necessary for the good of the Bee-Keepers' Union, call on me for a donation of $1 towards the Defense Fund. The apathy of the bee-keepers is astounding. I should think that every bee-keeper in America would see the great importance of energetically supporting the Bee-Keepers' Union. The Union is supporting right and justice, in every sense of the word. It would be a power in the land supported to the extent that it should be. It has done much by the support of the noble little band of brothers of which it is composed. The Union, I think, should have at least 1,000 members.

Allow me to congratulate the publishers upon the very neat and tasty appearance of the AMERICAN BEE JOURNAL for 1888.

Zephyrs from the West.—F. P. Stiles, Haverhill, ♂ Mass., on Jan. 28, 1888, writes:

I wish the fellow that works the bellows out your way would kindly point them in the opposite direction. By strict economy, with the aid of the proverbial "east wind diet" of New England, we have managed to live quite comfortably until recently. With the displacement of east wind by your western zephyr, and the necessity of hiring a boy to hold our hair on, the outlook is a disastrous spring dwindling, unless we can unite with some plumber.

Not Discouraged.—F. J. Sawin, Monmouth, ♎ Ills., on Jan. 30, 1888, writes:

I had 70 colonies of bees, spring count, but I did not get a pound of honey nor a swarm. This was caused by dronth. I packed my bees on the summer stands; they had honey enough for winter stores, and I thought they would winter well. I examined them to-day, and I find that they have the diarrhea. I expect to lose all of them; but will stock up in the spring, if there are bees enough left in Warren county. I am not discouraged, for we must expect reverses in any business.

The good old AMERICAN BEE JOURNAL in January improved so that I hardly recognized it, when it came on its friendly visit. I could not keep bees without it, and do not see how any one else can.

Wishing that the Bees were in a Cellar or Cave.—M. Miller, Le Claire, ♎ Iowa, on Jan. 27, 1888, writes:

It has been one month and two days since the bees in this country have had a flight. It has been quite cold most of the time. We had a thaw for two days last week, but there was no sunshine; consequently the bees did not have a flight. Lots of bees went into winter quarters short of stores; consequently there will likely be considerable loss, especially if this cold weather continues long. I wish I had mine in a good cave or cellar. They are packed on the summer stands.

Right Temperature for Bees.—W. B. Stephens, Stephen's Mills, ♀ N. Y., on Jan. 24, 1888, says:

I commenced the season of 1887 with 157 colonies of bees, and increased them, by natural swarming, to 230 colonies. They stored 6,000 pounds of honey in one-pound sections, and 2,000 pounds of extracted honey. I have 146 colonies packed with chaff, and 84 colonies in the cellar, all being in good condition. The bees in the cellar are the most quiet with the temperature at 40°. I have had it above and below that point, but 40° seems to be about right.

Bees Wintering Satisfactorily.—W. Mason, Fillmore, ♎ Ind., on Jan. 25, 1888, writes:

The bees are so far wintering well, notwithstanding a heavy crop of honey-dew was stored, but it was of superior quality. Reports from all parts of the State at our convention was satisfactory. The attendance was not as large as common, but the meeting was interesting. We were honored with the Agricultural Room in the new State House. After the adjournment we were shown through the basement of the building, where we obtained much information.

Newaygo Co., Mich., Convention.

The Newaygo County Farmers' and Bee-Keepers' Association will hold their annual institute at the Congregational Church, Fremont, on Thursday and Friday, Feb. 9 and 10, 1888.

Programme Thursday, Feb. 9, morning session, 9 o'clock sharp—Music by the Fremont Glee Club. Prayer by Rev. J. Roberts. Music by the Glee Club. President J. B. Jewell's annual address. Address of Welcome, by Joseph Gerber, President of the F. B. M. A. Sheep Husbandry, Mrs. P. W. Hall. Corn is King, Thos. Stuart.

Afternoon Session, Thursday, 2 p.m.—The Roman Standard of Agriculture, M. W. Scott. Under Draining, Wilkes Stuart. The Most Profitable Breed of Horses for the Farm, S. V. Walker. The Farm Boys of Michigan, Mrs. M. W. Scott.

Morning Session, Friday, Feb. 10.—Music by the Glee Club. Prayer by Elder Gardner. Music by the Glee Club. The Relative Benefits of a Creamery to the Village and Country, J. R. Dudley. Practical Bee-Keeping, W. E. Gould. Secretary's Report.

Afternoon Session, Friday, 2 p.m.—Election of officers. The Best Orchard Fruits for Western Michigan, Irwin C. Fox. The Relative Benefits of Apiculture, Horticulture and Agriculture, Geo. E. Hilton. Selection of time and place for the next meeting. Adjournment.

GEO. E. HILTON, *Sec.*

One of our Correspondents asks this question:

What proportion of first swarms, placed in a single section of a Heddon hive, *will re-swarm*, if a queen-excluding honey-board and plenty of crates for surplus comb-honey is furnished to the colony?—E. D. K.

By request, Mr. Heddon answers the question thus:

With my experience during the past four summers, I reply—no greater proportion than with any other hive, whether controlled or not. The contracting system which reduced the brood-chambers of the Langstroth hives and others down to the size of one case of our divisible brood-chamber, was practiced years before the new hive and system was dreamed of, and no trouble from re-swarming was reported. Some seasons swarms of that year re-swarm to some considerable extent, but they do it alike from all kinds of hives. At least this has been my experience.

New Catalogues for 1888 are on our desk, from the following persons:

B. J. Miller & Co., Nappanee, Ind.—20 pages—Bee-Supplies.

James J. H. Gregory, Marblehead, Mass.—56 pages—Vegetable, Flower, and Grain Seeds.

John Nebel & Son, High Hill, Mo.—10 pages—Bees, Queens, and Bee-Keepers' Supplies.

E. Kretchmer, Coburg, Iowa—30 pages—Bee-Keepers' Supplies.

Northrup, Braslan & Goodwin, Minneapolis, Minn.—50 pages—Farm, Vegetable and Flower Seeds.

J. D. Goodrich, East Hardwick, Vt.—12 pages—Hives and Bee-Supplies.

E. M. Bullard, West Swanzey, N. H.—12 pages—Poultry and Flower Seeds.

Please to get your Neighbor who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

Simmins' Non-Swarming System will be clubbed with the BEE JOURNAL for one year, both postpaid, for $1.25.

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	2 00	1 80
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 90	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Simmins' Non-Swarming	1 50	1 25
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
Cabbage and Celery	1 25	1 15
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Every Subscriber is our authorized agent; we have no others, and we greatly desire that each one would at least send in the name of one new subscriber with his own renewal for 1888. The next few weeks is the time to do this. We hope that every subscriber will do his or her best to double our list of subscribers.

This is the Time for reading. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books, and can fill all orders on the day they are received.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00,

One Dollar invested for the weekly visits of the AMERICAN BEE JOURNAL for 1888, will repay every apiarist in America.

Should Any One receive this paper any longer than it is desired, or is willing to pay for it, please send us a postal card, asking to have it stopped. Be sure to write your name and address plainly. *Look at your wrapper-label.*

A Favorable Word from any of our readers, who speak from experience, has more weight with friends than anything we might say. Every one of our readers can lend us a helping hand, in this way, without much trouble, and at the same time help to scatter apicultural knowledge and promote the welfare of our pursuit.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Feb. 15, 1888. No. 7.

EDITORIAL BUZZINGS.

How dear to my heart is the fierce howling blizzard,
Which comes from the North like a wolf on the fold.
Predicted by Foster, or some other wizard,
The charger of snow, and the demon of cold ;
How sweet to be caught in its grasp like a feather,
And find yourself wrapped round a telegraph pole;
O, how we adore it, this wild winter weather ;
The blizzard that comes when we're all out of coal;
This wild, whirling blizzard, the razor-edged blizzard,
The loud, howling blizzard, fresh from the North pole. —*Lincoln Journal.*

That is *poetic*—but the blizzards very soon drive away all *poetry*, when they take full possession of a locality.

Mr. Richard Grinsell, of Baden, Mo., well-known to many who attend Fairs in Iowa, Nebraska, Kansas and Missouri as an exhibitor of bees and honey, is dead. He was an intelligent and progressive apiarist.

"Perhaps the Clearest and best idea."—That is how the first line of the last paragraph but one on page 87 should have read. It was an oversight of the printer.

The Penn. Farmers' Institute is now in session at Oxford, Penn. To-morrow morning S. W. Morrison, M. D., gives an address before it on "Bee-Culture." The Doctor will, no doubt, give them an enthusiastic talk—for it may be truthfully said that "every bee-keeper is an enthusiast."

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Birds and Fruit.—Mr. W. M. Bomberger, of Harlan, Iowa, whose article on "Poisoning the Bees" was on page 84 of last week's issue, writes as follows concerning the birds who injure the fruit in this locality :

We are in a prairie country. Our planted groves, near which vineyards and small grape patches of farmers and others are situated, being the nesting place and natural *habitat* of birds, literally swarm with the feathered tribe in summer, when the open stretch of prairie country afford them an excellent feeding ground. An open prairie country under high cultivation is put to a great disadvantage by injurious insects that at times destroy whole crops. Timber planting and a greater annual advent of birds will help cure the evil. Since they have a good living, a surfeit of insect food, it seems to create in them a voracious appetite for fruit, especially grapes, as a surfeit of meat in man does an appetite for the same.

The "birds" are the destroyers—*not the bees!* The farmers should be correctly informed concerning their friends and enemies. Then the bees will be found to be their greatest benefactors—fructifying the bloom, and causing their trees to bear fruit abundantly.

Cork for Winter Packing.—J. H. Howe, Mansfield, Mass., on Feb. 5, 1888, asks about "cork" for packing :

My bees had a good flight to-day, the thermometer indicating 52° on the north side of my house. I also examined one colony, and found the bees in good condition. We have had three weeks of very cold weather. It was 20° below zero on one morning, but not much snow. Is ground cork good for packing chaff hives for wintering bees ?

Yes ; "cork" has been used for winter packing for bees. Imported white grapes are often packed in ground cork, and it can be obtained from fruit-stores very cheaply. Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing.

We are Sorry to announce that Mr. W. Z. Hutchinson and his little daughter have been laid up with bilious fever. A letter from Mrs. Hutchinson last week informs us that both are improving, but, as the result of this indisposition, the *Review* for February will be a little late.

Honey-Dew in February.—Mr. George E. Hilton, of Fremont, Mich., on Feb. 8, 1888, thus describes the honey-dew he has seen on the ivy :

I have just discovered that our English ivy is infested with aphides, and the leaves are sticky with the spray they have thrown off. In one place I found a large one and a ball of the stuff attached to it, half as large as a kernel of wheat, granulated, and as light-colored as clover honey.

Scatter the Leaflets.—Look at the list (with prices) on the second page of this paper.

Pollen and Sugar Candy.—A. Sherington, Dutton, Mich., on Feb. 2, 1888, asks the following questions :

My bees are in good condition, and they have had no flight since Nov. 20. The weather is now very pleasant. 1. My bees have no pollen. Can they breed without it ? 2. Can I supply them with it ? If so, in what way ? 3. How is the sugar candy made for the bees for winter feeding ?

1. Bees cannot rear brood without pollen or a substitute for it.

2. Yes ; as early in the spring as they can fly, you can place some rye meal at some distance from the hives ; put on top of it some honey on which the bees have commenced to feed. This will insure their immediate attention to the meal.

3. For winter feeding, use 4 parts coffee A sugar and 1 part water ; simmer till it becomes quite hard on being cooled, mould into frames of 1 inch thickness, and lay it on top of the frames, using sticks underneath ½-inch square ; or mould it in brood-frames, tie hemp twine around to hold it in place, and put it in the center of the brood-chamber.

Rural Life is the title of a new bi-monthly published at 20 cents a year by C. Weckesser, of Marshallville, O. It has 16 pages, is nicely printed, and well edited. It makes a creditable initial number. The following is an editorial item on the "scientific pleasantry" which may in time prove very *unpleasant* to Prof. Wiley :

The intense drouth of the past summer, which shortened the honey crop so materially, has exposed the falsehood of the statements so extensively circulated, that honey is being made of glucose, deposited in machine-made combs, and sealed with hot irons—a statement as absurd as that which was lately circulated in regard to eggs being manufactured.

If this could be done, the present season would be the time for those dextrously skilled inventors to reap a golden harvest by marketing the manufactured product ; but, notwithstanding the short supply of, and the urgent demand at a high price for honey, the bogus article is nowhere to be found, for it has never been made.

J. P. Miller, of Chicago, has been exhibiting bees in New Orleans, La., and other cities, and has just returned. He is a good talker, and describes the habits and characteristics of bees while publicly manipulating them. He exhibited them at the Museum in this city last fall, to large audiences.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered very soon. We are promised an early spring, and a good honey crop.

GLEANS OF NEWS.

Factory for Canning Honey.—One at least is in existence. It is conducted by Mr. A. Christie, of Smithland, Iowa. The *Exponent* of Dec. 15, 1887, describes it thus:

Mr. Christie owns five apiaries with from 500 to 600 colonies of bees. All the honey from these apiaries are brought to his Smithland canning house to be put up for the market. This is a more extensive job than one would think, and the process is more complicated.

The honey, when extracted from the comb, is barrelled up and taken to the store-house, where it is kept until the time for canning begins, which is generally about the first of December.

The building where the canning is done, is a substantial brick structure 22x30 feet, and two stories high, with an ell for an engine room. The arrangements are such that when the honey is brought in, it can be unloaded from the wagons on a level with the upper story, and the barrels rolled in. Then the barrels are placed on end, the heads taken out, and the honey is emptied into a tank holding about 100 gallons. This tank is made of boiler iron, and heated to a moderate degree by steam. From this tank the honey passes through a pipe which is regulated by a stop-cock, into a reservoir having a capacity of three barrels. From this reservoir it passes through another pipe into a steam chest. This pipe is made of block-tin, and is made in a spiral form, so that the honey may be kept in motion, for if it remained in one place too long it would be over-heated, and a little too much heating spoils it. In the chest it is heated to the required temperature, and drawn off into cans, the heat preventing granulation.

The capacity of this apparatus is two barrels per hour. In addition to this there is a steam chest in which cans are placed, and the steam being let on, the honey melts and runs into the same tank in which the barrelled honey was placed. This makes the whole capacity of the factory three barrels per hour. The honey is drawn off in cans, varying from one to sixty pounds each, but the largest demand is for the one-pound cans.

An engine of six-horse power drives the machinery and furnishes the steam for heating purposes. Mr. Christie travels during the greater part of the year selling to dealers in various parts of the country.

The Lecture of Prof. N. W. McLain, which we mentioned sometime ago, is to be delivered before the "Academy of Sciences" at Stevens' Art Hall, 24 Adams-st. Chicago, on Monday, Feb. 27, 1888, at 8 p.m. The subject will be the "Construction and function of bees;" which will be illustrated by large charts. Prof. Higley will preside. Seats will be *free*, and all will be welcome.

The "Chapman Honey-Plant" has been placed by the Department of Agriculture upon the "free list." All persons desiring the seed can procure it FREE, by writing to Hon. Norman J. Coleman, Commissioner of Agriculture, Washington, D. C.; or if they desire a larger quantity than is furnished by the Department for experimental purposes, undoubtedly they can get it by requesting their representative in Congress to send it to them.

Pleasant Words come from our brother publishers, in noting the advent of the BEE JOURNAL for 1888. To all we say, "Thanks;" and we hope that the pleasant relations between the editors of the many bee-periodicals will long continue, and their exertions for the prosperity of the puruit be fully rewarded. We give those so far received a place here:

The first numbers of our esteemed cotemporary, the AMERICAN BEE JOURNAL for 1888, have come out in a new dress. It is printed almost wholly from new type, and the matter has been somewhat re-arranged. Altogether, it is a decided improvement. As in times past, *Gleanings* extends the right hand of fellowship, and wishes the publisher every success. In this connection we note with pleasure the brotherly feeling existing among all our bee-periodicals at the present time, and likewise the absence of little petty jealousies which, we are sorry to say, used to crop out once in awhile.—*Gleanings.*

No. 1 of Vol. XXIV, of the AMERICAN BEE JOURNAL is on our desk, and we must confess that Editor Newman has made his paper look very nice in its new dress and new type. The head-lines of all articles are in large, clear, full-faced type. The contents and general make-up are perfection. Bro. Newman is a man of progress, and never takes a back step.—*American Apiculturist.*

The AMERICAN BEE JOURNAL comes to us in an entirely new dress of type, which makes a decided improvement in its appearance. In its articles, the AMERICAN BEE JOURNAL keeps abreast of the times, is a credit to its publishers, and worthy of patronage. We wish it every prosperity.—*Canadian Bee Journal.*

Like an old friend in new clothes comes the AMERICAN BEE JOURNAL for Jan. 4, 1888. Its appearance has been much altered and improved. We hope to see those biographical sketches continued through the year.—*The Bee-Hive.*

This is Leap Year. February has 29 days, and begins and ends on Wednesday. Washington's birth-day comes on Wednesday. Memorial Day falls on Wednesday. The Fourth of July is Wednesday. Lent begins to-day—Wednesday, and every Wednesday in the year the AMERICAN BEE JOURNAL will be published, no matter whether it is hot or cold, wet or dry, cloudy or bright sunshine! Wednesday is surely the "lucky day" of this year of three-eights (888). If it possesses any "enchantment," it "augurs" well for the bees that pass in and out comfortably through a three-eighths inch (888) auger hole. Hurrah for three-eights (888) and Wednesday!

Letter Postage.—It has been proposed in Congress to reduce letter postage to one cent. The Post-office Committee of the House has reported back adversely the proposition. We do not want cheaper postage, but more efficient service, especially in the country. Fourth-class postage might be reduced (on parcels of merchandise), but we can hardly hope for that, as it would affect the high-tariff of the express companies. If you have any influence with your Congressman, it will pay the reader to use it to secure a rate of one cent for 2 ounces as postage for fourth-class matter.

The Stark Co., O., Convention.

The Stark County Bee-Keepers' Society met in Grange Hall at Canton, O., on Feb. 4, 1888. The President, Jacob Oswalt, of Maximo, being absent, W. S. Kline, of Bolivar, was chairman *pro tem.* Owing to the very slippery condition of the roads and streets, there was a small attendance, but notwithstanding this fact a very pleasant and profitable time was had. A committee, consisting of Henry Beatty, of Massillon, J. H. Smith and L. J. Wise, of Canton, were appointed to wait on the Directors of the Stark County Agricultural Society, to ask for a revision of the bee and honey premium list. After the questions from the query-box were answered, the society adjourned to meet on Wednesday, April 11, 1888.

MARK THOMSON, *Sec.*

Prospects.—It is yet very hard to prognosticate, but the indications point to a good honey-season. Mr. C. H. Dibbern, in the *Plowman* for February, says:

At this time the prospects for a good honey season are excellent. Snow has covered the ground all over the northern States since early in December. It is true that, owing to the drouth, clover is not abundant, but what there is will likely be good. Judging from present indications, all other plants will be good also, so that the bee-keeper may reasonably look for a good honey harvest in 1888.

So far, bees that were well supplied with honey, or sugar syrup, fed early enough, are in good condition, whether wintered in cellars or out-of-doors. Bees, however, are not yet "out of the woods," by a good deal. At the present time, January, the weather is quite severe, and many a colony, not properly provided or cared for, will "go to the wall" before the gentle spring comes again, with its sunshine and flowers.

New Catalogues for 1888 are on our desk, from the following persons:

Oliver Foster, Mount Vernon, Iowa—12 pages—Bees, Honey and Supplies.

J. M. Jenkins, Wetumpka, Ala.—36 pages—Bees, Honey and Supplies.

J. C. Vaughn, 88 State St., Chicago, Ills.—80 pages—Garden, Flower and Vegetable Seeds.

Mrs. Stennett, a lady bee-keeper of Blanchard, Ont., was thrown from a sleigh and killed, on Sunday, Jan. 22, 1888, by a runaway horse. Mr. S. was also thrown out of the cutter, but escaped without much injury. She was an estimable lady, and was beloved by all who knew her.

"The Bee-Keepers' Advance and Poultrymen's Journal" is now the title of Bro. Mason's paper, published at Mechanic Falls, Maine. It commenced its second year with the poultry addition.

The Canadian Honey Producer completes its first volume with the February number, which is filled with the report of the Ontario Convention.

Postage in Canada on fifth class (parcel post) was reduced on the 1st inst. to 1 cent per ounce. The registration fee is 5c.

QUERIES AND REPLIES.

DOES HONEY DETERIORATE IN GRANULATING?

Written for the American Bee Journal

Query 515.—1. Does honey deteriorate in the process of granulation? 2. If so, at what stage does it commence, and when does it cease to deteriorate, if ever? I am prompted to ask this question, by the judges at our State Fair deciding against my honey, on the plea that it had commenced to grain, and consequently, to deteriorate.—C.

1. No.—P. L. VIALLON.

1. No, it does not.—A. J. COOK.

1. I never supposed that it did.—JAMES HEDDON.

1. I think not, necessarily.—EUGENE SECOR.

1. I think not.—R. L. TAYLOR.

1. It does not, I think, deteriorate.—W. Z. HUTCHINSON.

1. This is the first instance that I have ever heard of honey deteriorating from granulation.—J. M. HAMBAUGH.

1. Comb honey does; extracted honey does not. 2. I cannot answer definitely.—MRS. L. HARRISON.

While it is possible that some of its aroma may be lost, there is no deterioration of quality.—J. P. H. BROWN.

1. I think not. 2. Tell those judges to test the matter more closely, and see if they do not alter their minds.—G. M. DOOLITTLE.

1. Good honey does not deteriorate in the process of granulating. 2. The judges at the State Fair did not understand their business.—M. MAHIN.

1. I think not. 2. Honey on exhibition, that has commenced to grain, is generally cut about two points by expert judges; not because it has commenced to deteriorate, but because it has not the attractive appearance of honey free from granulation.—H. D. CUTTING.

1. No. 2. Good *judges*, were they not? Melt some of that granulated honey *over water*, and let them taste it side by side with honey that has never granulated. They will not be able to tell the difference.—DADANT & SON.

As I am a comb honey producer, I have had but little experience on this line. I do not think, however, that granulation deteriorates good extracted honey. If I were buying, I should prefer to have it granulated.—C. H. DIBBERN.

1. No, not in *quality*, if it is thoroughly ripened and put into barrels, tin or glass, and sealed up air-tight. 2. Your judges must have been comb honey producers, and never saw well-ripened and well-cared-for extracted honey. Send them over this way, and we will fix them up all right. This was one of the most interesting and best discussed subjects at the recent Ohio State Convention.—A. B. MASON.

I do not think that granulation deteriorates well-ripened honey. Some claim that it does. It is a mooted question; still I think that the deterioration so caused will only be found in honey not well cured.—J. E. POND.

Honey well-ripened loses nothing by granulation; at least I could never discover that it does. Honey loses, to a certain extent, the aroma of the flowers after extraction from the comb, but this deterioration is not due to granulation. Granulated comb honey is not considered so appetizing as that which has remained liquid, and will not command the best price if the granulation is detected.—J. M. SHUCK.

1. In my opinion it does not, and I think I have some experience. 2. If honey deteriorates at any time, it is the result of bad management or bad conditions. I have samples of honey dating back to 1877, and quite a number of the very best judges have pronounced the samples perfect in quality, and in preservation. Some of the best samples of honey that I have ever seen began to granulate quite early in the fall—in fact, in advance of other honey that was not so fine in quality.—G. W. DEMAREE.

1. No; the crystallization of sugar is not a chemical change of elements. If honey is granulated and slowly heated by means of a water bath, until it becomes liquid, there is no change or loss of principles; hence granulated honey is not deteriorated honey. But if a tin can of candied honey be placed directly on a stove to liquify it, there will be a loss of volatile principles, and the honey be damaged. This may account for the judges' opinion.—G. L. TINKER.

1. That depends. Some consider granulated honey inferior from the mere fact of its granulating. If in the comb it will bring a less price generally. If extracted, the granulation would not be objected to by some. It may be of good or bad quality, independently of the granulating. 2. If the fact of its granulating is considered deterioration, then the deterioration commences when the first granules can be detected, and ceases when it is perhaps half granulated.—C. C. MILLER.

Comb honey is not desirable if it is granulated, because it cannot be liquefied without destroying the comb, and is therefore of no more value than extracted honey. If the honey was a good article, and well-ripened before being extracted from the comb, it has not deteriorated a particle. If it was watery or unripe, it may sour in the process of granulation, but in liquefying even this souring is cured by the heat necessary to liquefy it. The "judges" were not good *judges* of honey.—THE EDITOR.

HOW TO PREVENT MOLD IN A BEE-CELLAR.

Written for the American Bee Journal

Query 516.—What is the best way to prevent mold in a bee-cellar? This, to me, is the greatest drawback in bee-keeping.—Minn.

By ventilation.—C. C. MILLER.

Ventilate it.—MRS. L. HARRISON.

Keep the air dry and cool.—W. Z. HUTCHINSON.

Ventilate to let off the moisture, and keep it warmer.—A. B. MASON.

Sprinkle slacked lime on the floor, and give the sides a coat of whitewash.—J. P. H. BROWN.

Keep the cellar dry, and give the hives plenty of ventilation.—M. MAHIN.

By keeping the cellar dry; but dampness and mold will not hurt your bees at all, if the temperature and food are right.—JAMES HEDDON.

I think that good ventilation would answer the purpose to a great extent.—P. L. VIALLON.

I put a two-bushel bag of sawdust in my cellar every two weeks, and find that I have a sweet smelling cellar compared with what I had before using the sawdust.—G. M. DOOLITTLE.

What harm is the mold doing? Anything that would take up the moisture in the air would prevent it. Try stone lime or dry sawdust.—R. L. TAYLOR.

Is the cellar not too cold? Try keeping it warmer. If sufficiently warm, say never colder than 40°, and still moldy, I should ventilate it, or try to dry the cellar.—EUGENE SECOR.

If I only knew the conditions or the cause I could reply better. Give good ventilation. Whitewash the walls with a good lime wash, to which add 2 ounces of carbolic acid to the pail of whitewash.—H. D. CUTTING.

Ventilate it plentifully. We would remove the bottom-boards entirely. We always have more mold wherever we leave on the bottom-boards. We would also advise you to raise the hives off the ground.—DADANT & SON.

Too much dampness is probably the cause. It might be prevented by tile draining, and a thorough system of ventilation, with artificial heat from a stove for several days before the bees are put in for the winter.—J. M. HAMBAUGH.

Keep the cellar dry and well ventilated. Keep the hives well ventilated also. Be sure that the stores are well ripened before the bees are put up for the winter.—J. E. POND.

First, confine the bees to the number of combs that they can occupy, say six Langstroth frames of comb. Second, remove the boutom of the hive or give large lower ventilation.—G. L. TINKER.

The best way is to so ventilate your cellar that it will be dry. But why do you care for mold? If the bees are all right, I think that the mold will do no harm. Things in my bee-cellar mold. Yet my bees winter exceedingly well. I do not fear dampness as I used to.—A. J. COOK.

Keep the cellar dry. Mold does not always accompany bad results otherwise; yet I would prefer not to have it. Proper temperature, say 45° to 50°, Fahr., with good ventilation and drainage, will usually prevent any excess of mold in the hives.—J. M. SHUCK.

Make the cellar as dry as possible by cementing the floor. Plaster the walls and ceiling, ventilate the cellar thoroughly during the summer, and whitewash it a few weeks before putting the bees in. Leave the windows open until the bees are put in, and no mold will appear; at least that is my experience.—C. H. DIBBERN.

This trouble of "mold," which means a condition of dampness, is what makes cellar wintering nearly out of the question in a mild, changeable climate like that of Kentucky. Some experiments that I now have on hand, indicate strongly that bees will be wintered in the cellar on a new plan in the future. The cellar will be kept at a low temperature, just above the freezing point, and at intervals of ten days or longer, as experience may fix the time, the cellar will be heated up to a high temperature till the bees by ventilating throw off all excess of moisture, and prepare themselves for another winter nap. The "heating up" will destroy the mold.—G. W. DEMAREE.

Dampness is the cause of "mold," but as its presence in a cellar is of no detriment to bees, it is difficult to see how that can possibly be "the greatest drawback to bee-keeping," as stated in the question. To prevent "mold" in a cellar, give it ventilation; lime or sawdust could be used to advantage to absorb the moisture.—THE EDITOR.

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

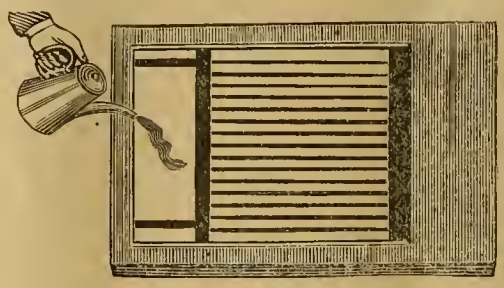
CORRESPONDENCE.

BEE-FEEDERS.

Historical Reminiscences Concerning Bee-Feeders.

Written for the American Bee Journal
BY J. M. SHUCK.

What are known as trough feeders have been in use a long time. The earliest practical feeder that I have noticed is described by M. Quinby in "Mysteries of Bee-Keeping Explained"



QUINBY'S FEEDER.

—1855 edition. This was a tin-pan, 10x12 inches, and 2 inches in depth. This pan was fitted with wooden partitions to prevent the bees from drowning, and was then fixed in a hole cut in the bottom-board of the hive just large enough to receive the pan which rested on cleats nailed to the under side of the bottom-board.

Space was allowed in the end of the pan for a reservoir in which to pour the feed which ran under the partitions and was thus accessible to the bees. This reservoir projected behind the hive, and when not used for filling was covered by a board of suitable width. The feeder was thus inaccessible to outside bees, and was probably very effectual as a feeder. I have copied the engraving of this feeder as it appears in the book alluded to, and have added only the vessel pouring the syrup, and present it here so that the reader may fully understand it.

Wm. Cary's feeder was described in the *American Agriculturist* for May, 1868. This was also a trough feeder, to feed at the top of the hive, and was all made of wood, except the glass cover. I have also copied the engraving of this feeder. It will be seen that one side is cut away so as to better show the interior, where the bees may be seen climbing upon the partitions and sipping the feed.

There is in this feeder also a reservoir into which the feed is poured, and which the bees cannot enter, but they do enter through a hole in the bottom of the apartment at the other end, and pass over the inner wall which is $\frac{3}{8}$ of an inch below the glass cover, and thus get at the feed.

These two feeders were probably the best form of any in use down to 1870 or later. In 1874 I had some feeders cut with a wabbling saw at Heath's Planing Mill here in Des Moines, which so far as I know were the first ever made by that method. They held about half-a-pint, and were very much the same as those brought out by Mr. A. I. Root, in 1877, and illustrated in September *Gleanings* for that year, I think. I had at this time been for some months perfecting my entrance feeder, and simple as it may seem, it took a long time to get it into shape,

CARY'S FEEDER.

which finally was done, and it was patented in 1878.

I then had a little tilt with Mr. Root, who honestly thought I had appropriated his Simplicity feeder for my own purposes. The fact was that he invented the same thing I had already done, but at a later date. It is scarcely necessary to state that although we got a little *warm*, a comparison of data enabled us to get along without either bloodshed or a lawsuit.

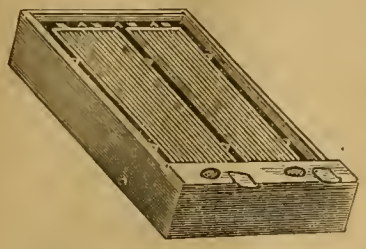
In 1880 and thereafter I began to combine these feeder blocks in various

ways, so as to be able to feed larger quantities at once. These experiments finally resulted in the "top and bottom feeder," that is, it may be used on

ENTRANCE FEEDER.

the top of the hive or at the bottom, as the bee-keeper may choose. This feeder is composed of two feeding blocks, and has bee-passages at the sides of the blocks, and also at the ends, so that any drip or leakage will be sure to fall within the hive, and may be taken up by the bees.

This feeder is constructed on the plan of the movable-comb hive, every part of the inside may be reached by



TOP AND BOTTOM FEEDER.

the bees and cared for by them. When in use *on* the hive, the hive-cover just covers the feeder; and when in use under the hive, the hive covers the feeder, and the bees pass in at the entrance in the bottom-board *under* the feeder, and *through* it into the hive proper.

Des Moines, Iowa, Jan. 30, 1888.

IN COUNSEL.

Northwestern Illinois and Southwestern Wis. Convention.

Written for the American Bee Journal
BY D. A. FULLER.

The annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association convened at Rockford, Ills., on Jan. 17, 1888, with Vice-President Swezey in the chair.

The minutes of the last meeting were read and approved.

The reports of members for 1887 showed 1,098 colonies of bees in the spring, and 1,028 in the fall, with only 970 pounds of surplus honey.

Mr. A. J. Swezey, of Rockford, Ills., read an essay entitled,

Lessons to be Learned in a Poor Year for Bee-Keeping.

Apparent failure does not always portend ultimate disaster. Many of the most important enterprises of the World have been nourished amid defeat and disaster. The first Atlantic telegraph cable was broken and lost in mid-ocean. The second was a dead wire in the bottom of the Atlantic. It took ten years more of patient investigation, and the utmost efforts of science and skill to make the Ocean telegraph a success.

A number of years ago people tried to make sugar from sorghum cane, but the attempt was a financial failure. Norman J. Coleman, United States Commissioner of Agriculture, has faithfully prosecuted and continued his investigations and experiments, and if recent reports are true, he will yet make sugar-making under his new process a grand success.

The bee-keepers of this country do not always find their efforts crowned with an abundant harvest. The uncertainties of the business sometimes comes with astonishing promptness and prominence. I know one man who invested about $200 in the business, and before getting any considerable returns, his bee-inventory was reduced to 2 colonies of bees! But that man afterward became one of the most successful bee-keepers of northern Illinois.

The past year has brought no immediate financial profit to the bee-keepers of this Association. From this apparent failure, the wise bee-keepers may learn some profitable lessons.

1. That like the crops of the agriculturist, much of success depends upon the vicissitudes of the seasons, and that it is of importance to study how best to overcome or withstand its extremes of drouth or flood.

2. That bees will not gather a large crop of honey unless the blossoms grow that produce the honey. That if the season is such that the white clover is a failure, we should grow some honey-producing plants to supply the honey.

3. That the bees should at all times be well cared for, and kept in good condition so that if at any season of the year there is a supply of honey, they will be fully prepared to gather it.

4. That during a term of years there is no more honey produced than enough to supply the market for the same term of years. That if a good honey harvest fills up the market one year, it can be shipped to a less-favored locality, or a succeeding poor year will use it all up.

5. That only persevering, scientific bee-keepers will attain any great success in the business. Those who expect good crops of honey without care and labor on their part, will be so disgusted with their success in a poor year, as to abandon the business.

6. That the wise bee-keeper should economically save the proceeds of prosperous years, or he will have to do some other business during poor years to pay living expenses.

7. That bees should be particularly well cared for during a poor year. By the law of probabilities, the next year will most likely be a good one for honey. It will bring a good price in the market. The bee-keeper will want all of his bees in condition to gather all they can.

A. J. SWEZEY.

Quite a discussion ensued as to the advisability of carrying honey over from a good year to a poor one, like the present.

Chas. Kisar exhibited some white clover honey, carried over from 1886, which was very nice, and certainly looked as good as any new honey.

Mr. O. H. Swezey said that he carried a considerable portion of his 1886 honey crop over; that it froze and cracked some, but the price realized for it was far better than he could have had when taken from the hives in the fall of 1886.

The discussion brought out from this showed that good, well-ripened honey could be carried over from one year to another.

The question, "When is the best time to put bees in the cellar?" showed that most of the members put them in from Dec. 1 to Dec. 7.

Dr. Miller and Mr. Hollingsworth thought that bees should be put into the cellar earlier, as the disturbance at that time was not good for them.

President Highbarger arrived and took the chair, when the merits of the Chapman Honey-Plant was discussed. Some of the members had some growing, but not enough to say anything in regard to its merits. Japanese buckwheat no one had tried, but all recommended the planting of basswood, and some thought that trees 5 or 6 feet high would grow and do better than smaller ones.

The convention then adjourned until Wednesday at 9 a.m.

SECOND DAY.

On Wednesday morning the meeting was called to order by President Highbarger, when an essay from Mr. Herrick, entitled, "The experience of a beginner in bee-keeping," was read.

A communication from the editor of the *Bee-Keepers' Magazine*, asking the consideration of the Association as to the advisability of forming an International Bee-Keepers' Association. The

following resolution was carried unanimously:

Resolved, That the formation of an International Representative Bee-Keepers' Association is desirable.

The "Question-Box" was opened, and answers given by Dr. Miller to the satisfaction of all.

In the afternoon an essay was read from Mr. Gammon, on "Comb Foundation." He commenced with the comb, told how he made the wax, and how it was prepared for foundation, in a very concise way.

The election of officers resulted as follows: For President, L. Highbarger, of Leaf River; Vice-President, A. J. Swezey, of Guilford; Secretary, D. A. Fuller, of Cherry Valley; and Treasurer, O. J. Cummings, of Guilford.

The convention then adjourned until May 22, 1888, to meet at Rockton, Ills.

D. A. FULLER, *Sec.*

ALSIKE CLOVER.

How Much to Sow, Where to Plant, How Many Seed to the Pound, etc.

Written for the American Bee Journal
BY M. M. BALDRIDGE.

On page 56 of the BEE JOURNAL, I find the following in regard to Alsike clover: "I can endorse what Mr. Baldridge says, on page 10, about Alsike, except that I would sow 4 pounds instead of 2 pounds of seed to the acre; and I would not sow it at all on thin, dry, sandy land. It will catch in wild-grass sloughs; but thrives best with red-top clover or pasture. If wanted for seed, sow 10 pounds per acre, and it will not lodge so badly. Be sure to get clean seed, and not mixed with sorrel as some Eastern seed is."

It always pleases me to have my ideas analyzed and criticized, when free from offensive personalities as the foregoing seems to be. What we all want are facts, no matter from whence they come.

As a rule it may not pay to try to raise Alsike on thin, dry, sandy, or worn-out soil, but Alsike will do well on *any* soil that will produce a good crop of red clover when the two clovers are mixed. Now, do not forget that statement, and try to grow Alsike by itself, or on any *dry* soil that will not produce red clover. And when mixed with the usual quantity of red clover and timothy, I still advise not more than 2 pounds of Alsike seed to the acre.

Now does the reader catch my idea? The 2 pounds Alsike is to be added to the usual quantity of red clover and timothy, so that, in case the Alsike fails to grow, from any cause, the land will be properly seeded anyway, and the only loss which ensues is simply the cost of the Alsike seed.

But let us see what we add when we use 2 pounds Alsike seed to the acre. The Alsike Leaflet says that a pound of Alsike has about 600,000 seeds, or three times as many as the common red. Now as I have never counted the seeds in a pound of Alsike, I do not know whether the statement is true or not, but I presume it is not far from the truth. Then 2 pounds of Alsike will have 1,200,000 seeds. Now how many seeds will this give to a square rod or a square foot of land? To the square rod 7,500, and to the square foot about 27 seeds! If only one out of every three seeds grow, and they are properly distributed over each square foot, there would be nine stools of Alsike, and they would cover the whole surface if allowed to do so. It is no uncommon thing to find Alsike stools 6 inches across when not crowded for room.

My experience is that 2 pounds of Alsike seed is ample, when mixed with timothy and red clover as stated, and it is also my experience, with not less than 70 acres of Alsike in one year, that 40 pounds of seed is ample when sowed alone. And to make the Alsike stand up, and to keep it away from the ground, I should much prefer to mix it with timothy, than to use 10 pounds of Alsike for that purpose, even when wanted expressly for seed.

But, as I want everybody to grow Alsike profitably and successfully, I still insist on the use of the common red clover, so as to secure the proper *shade* for the Alsike in *dry* seasons. If we could always be sure of *wet* seasons we could then safely dispense with red clover. As a rule it is no trouble to grow Alsike by itself in Canada, owing to its cool, moist climate, but we do not all happen to live in Canada!

The idea of being careful when buying Alsike to get good seed, and free from *sorrel* and other foreign seeds, is a good one. I have seen Alsike with apparently 25 per cent. of sorrel seed mixed with it. Alsike is now so very cheap that no one should hesitate to pay the price of a No. 1 fresh, clean seed. At $9 per bushel for extra choice Alsike it is no more expensive than the common red at $3 per bushel! And why? Because one bushel of Alsike will seed as many acres of land as three bushels of red clover. Besides, a ton of Alsike hay, after the seed is threshed therefrom, is worth more for cattle or sheep than a ton of the best cured and unthreshed common red.

Some 20 years ago, when I was growing Alsike extensively, and on rented land at $5 per acre, the price I then paid was $60 per bushel, and thousands of pounds of the seed were sold, at retail, at $1.50 to $2.00 per pound! The present exceedingly low price for Alsike seed is simply evidence that it is now grown extensively, and with the greatest of success by thousands who have got hold of the secret as herein indicated.

St. Charles, Ills.

THE EXTRACTOR.

My Position in Regard to the Extractor.

Written for the American Bee Journal
BY WM. F. CLARKE.

The report of the recent Ontario Bee-Keepers' Convention on page 72, is a lop-sided affair. Some of the most interesting discussions are omitted, while special prominence is given to the sayings and doings of the reporter and his father-in-law. I do not propose supplying its omissions, but crave space for a few remarks concerning a single reference made to myself. The "report" says: "W. F. Clarke, of Guelph, condemned the honey-extractor, but the members present, however, objected to this." Objected to what? My condemning the extractor? Not at all. I was allowed entire freedom of speech, without objection on the part of any one.

There are few bee-keepers of judgment and experience who will not concur in most of the remarks I made on that occasion. I said, it was doubtful whether, on the whole, the extractor had been beneficial to apiculture. It had opened the door to adulteration of honey, and had been used most injudiciously by many, who tore up the brood-nest without mercy, took large quantities of unripe honey, and really put on the market an article of *strained* honey, so much brood, pollen, etc., being thrown out of the cells. The extractor had been the means of lowering the price of honey, and if not used until the honey was ripe, and the cells were capped, I questioned if extracted honey was more profitable than comb honey. While preferring not to use the extractor myself, I strongly urged those who did use it to leave the brood-nest intact, and do their extracting from the combs of an upper story, as recommended in Mr. Malcolm's excellent paper, out of which the discussion arose.

The one point of difference between myself and other bee-keepers present was in regard to the question whether, all things considered, it was advisable to use the extractor at all. My own

preference for comb honey is shared by me with some of our best and largest producers of honey, and this question is one that must come to the front.

I doubt much if the honey market will ever be in a satisfactory condition, so long as large quantities of the inferior extracted article are produced. These are the great disturbing element, and no one can read the quotations and note the difference of price between the cheaper grades of extracted honey, and first-class comb honey, without feeling that the production of extracted honey, so far as it is carried on, should be rigidly limited to that of the highest quality.

St. Thomas, Ont.

NEW YORK.

Bee-Keepers of the State in Convention.

Compiled from the Bee-Keepers' Magazine.

The 19th annual convention of the State Bee-Keepers' Association was held at Utica, on Jan. 17-19, 1888, with President W. E. Clark in the chair. The minutes of the last meeting, and the Secretary's report were read and approved.

The first discussion was on,

Various Honey-Plants for Bees.

Mr. A. I. Root said that he had considerable experience in cultivating plants for honey. He had raised catnip, but it required too many plants to make a satisfactory showing, and the same was true of mignonette. He said: "I once had 40 colonies of bees that worked on a field of buckwheat two miles away, and I regard that the best showing of artificial pasturage I ever saw. Buckwheat honey is dark, however, and the yield is irregular. We get good results from Alsike clover. The crop pays well for the hay and the seed, aside from the honey. We call the clover honey "gilt edge." The cultivation of rape is carried on in places for its seed, and we get good results from the plant in the way of honey. The raspberry is cultivated for its fruit as well as for honey.

John Aspinwall, in speaking of the tulip tree, said that in passing under a tree one day he pulled down a blossom, and it was filled with honey. All of the blossoms were covered with honey, and there were myriads of bees there. There had been no rain for several days.

Mr. Dickinson—The supply of honey depends largely on climatic conditions at all times. In my opinion, any one who plants anything for honey alone, will "get left." When clover yields honey, it is of a fine quality. When you find bees working on white clover, you find them on the red. Buckwheat is simply buckwheat, and nothing more, and as far as the Japanese or other varieties are concerned, I cannot see that one is better than another. Raspberries produce a large amount of honey, and if I had to take my choice between this plant and the clover, I would take the former. My bees work on red, white or Alsike clover.

J. H. Taylor—There is a great difference in the locality as regards the quantity of honey produced. This year the bees failed to get honey from buckwheat near Ilion, but later at Jordanville, the same bees, when I took them there, worked on the plant freely. I find that they will gather honey from buckwheat on hills when they will not in the Mohawk valley.

Mr. Aspinwall—It seems to me that it has been proved this year that there is something else than climatic changes that affects the yield of honey. The conditions were apparently favorable for honey, but the yield was light.

President Clark—Fifteen years ago I got a good yield from buckwheat, but since that time I have not been able to get a good yield from that source. I presume that my bees get a little buckwheat honey, but they consume it.

Mr. Dickinson—I. L. Scofield has an apiary at Chenango Bridge, in a buckwheat country, and where he once had a large yield of honey, he now gets but little. Bees work very little after midday. If the night has been warm, and a fall of dew follows, the conditions are favorable for the bees.

Mr. Knickerbocker—The bees in our section did not work on the basswood trees in 1886, but last year they did.

Mr. Root—How many have succeeded in increasing the yield of honey by moving their bees from one place to another?

Mr. Taylor related an instance where bees had been moved two miles, and they had worked much better.

Mr. Root spoke of an instance where bees had worked on buckwheat in the afternoon.

Mr. Dickinson—Can any one report a yield from sumac?

Mr. Knickerbocker—Mr. Jackson, of Deposit, says that he gets a good yield of honey from sumac every year. We have a little in our place, and it yields very well.

Mr. Taylor—The bees work on the red sumac in our locality very nicely.

After some miscellaneous talk, the convention adjourned until 7 p.m.

EVENING SESSION.

The President called the convention to order at 7:15 p.m. After the enrolling of new members, the time was given to miscellaneous discussions.

In reply to this question, "Does it pay to use full sheets of foundation in the brood-chamber?" Mr. Foster said that he had always used full sheets, and his bees never go into winter quarters with over 15 or 20 pounds of honey.

Mr. Betsinger said that for extracted honey full sheets of foundation should be used.

Mr. Knickerbocker said that taking the average of the season right through, he would not do without the foundation if it cost a dollar a pound.

Mr. Aspinwall—In Cuba they use full sheets, but of course they work only for extracted honey.

The prevailing opinion seemed to be that full sheets of foundation should be used in the brood-chamber.

Feeding Sugar to Bees.

Mr. A. I. Root, in response to a query from the President, said he thought that a pound of sugar is equal to a pound of honey for supporting bees. Granulated sugar is better than honey for this purpose.

Secretary Knickerbocker—It seems to me a detriment to bee-keepers that sugar has ever been mentioned in connection with bee-keeping.

Mr. Aspinwall—The question of adulterating honey has been dropped entirely.

Mr. Root—I have made a standing offer of $1,000 for a comb of artificially manufactured honey.

Mr. Aspinwall—I will give a thousand dollars for a square inch of it that cannot be distinguished from that made by the bees.

Mr. Foster—If it is a losing matter to feed sugar to bees to put into sections, why is it not a losing operation to feed it to them through the winter?

Mr. Root—Simply because it is better for the bees.

Mr. Aspinwall—I think that the sense of the Association is, that it is ill-advised to feed sugar to bees if there is any possible chance of the honey getting on the market.

Mr. Kilbourn—My bees want 500 pounds of something to winter on. I think I can secure the necessary quantity of sugar or syrup for $20, whereas the honey would cost $40. As a matter of business, I think that we have a right to use sugar for wintering the bees.

Mr. Betsinger—Syrup will cost 5 cents a pound. Does any one want to take what honey I have left next season, after I have sold what I want to, and allow me 5 cents a pound? I think not. Therefore, taking honey away and feeding sugar instead, is not advisable.

Mr. Foster—That is what it is coming to, unless something is done.

An extract from the *American Grocer* was read, in which it was stated that in New Jersey 42 samples of bottled honey was analyzed, and it was ascertained that out of 31 samples put up by packing houses, only six were pure. The samples purchased of farmers, however, were all pure.

Mr. Root—I fear there is a mistake about some of those samples examined. The State Chemist of Ohio says that it is a difficult matter to tell when honey is adulterated. Bees gather every variety of honey.

Mr. Aspinwall—With the polariscope you can detect the presence of 5 per cent. of glucose. A point in the article just read is, that the honey procured of dealers was nearly all found to be adulterated, while that purchased of bee-keepers was all pure. There is a law against adulterating honey, and can we not induce the State chemist to analyze honey sold on the market ?

The question of "Artificial Fertilization" was on the programme, but N. W. McLain, who was to lead it, was unable to be present, owing to illness. A letter from him was read, expressing regrets at his inability to be there.

Mr. Aspinwall—When a bee has lost its hair on its thorax, it is diseased, and the malady is termed bacillus decappillis. There are isolated cases in many colonies, but the disease does not spread.

Mr. Root—In "the nameless bee-disease" the members of the colony become weak, have shiny backs, and many die. New queens have to be introduced.

Mr. Aspinwall—The introduction of new queens is a great secret of success in bee-keeping. A queen hatched this season should never be kept over the next.

At this point a recess was taken until 9 a.m.

LIGHT IN CELLARS.

Value of Light in the Bee-Cellar in the Winter.

Written for the American Bee Journal

BY T. F. BINGHAM.

Thinking that some of the readers, in the near future, may have a few colonies of bees to winter, and for which they do not wish to spend much money to make a cellar or cave, not even to render their ordinary cellar dark and unpleasant to use for the ordinary family purposes, I have decided to state a few points perhaps overlooked by bee-keepers, in regard to light in the cellar as a means to the paramount purpose of healthfully wintering bees.

In this article it is not the intent to exhaust the evidence, neither to establish the theory thus far among scientific bee-keepers not mentioned as a possible factor to successful wintering. I shall simply state that I have been in the habit of wintering part of my bees in cellars at various times and in various places, according to circumstances. However radical I may have been, only in one instance has the ordinary stereotyped rules been disregarded by me, so far as darkness was concerned. I have in all cases absolutely excluded light from my cellars except in one case, when I wintered successfully a few colonies in Allegan, Mich., in a very light cellar, where vegetables were kept for the daily use of a large family, composed mostly of children, who went when they pleased into the cellar for apples, etc.

The point that I wish to bring out conspicuously is, that light is essential to the welfare of all warm-blooded animals, to which rule bees are in no wise an exception ; neither are plants. It will of course be at once assumed that in order that bees may be quiet, human ingenuity must exclude from them all light as the first and prime essential.

"Habit," the lamented Artemus Ward said, "is a bad habit." While in a certain sense his statement is correct, I shall not presume that the many gifted bee-keepers and writers who have, and now do advocate wintering bees in dark cellars and caves, do so simply out of respect to the time-honored custom, without giving all the accessories, which they so explicitly explain, due thought and consideration. No ; but on the contrary, their articles seem exhaustive, and so far as a recapitulation of the accidents and purposes which have come under their consideration goes, the evidence and conditions given leave little room for reasonable difference of opinion.

The fact still stands out boldly, that perhaps the one most important factor entering into the proper statement of the wintering problem has been hitherto omitted, viz : Light. Light in the cellar ; light in the hive, and light in the swaying trees.

Having so far outlined what I wish to be understood, allow me to give a pen-and-ink sketch of the few of my bees now in the cellar, to illustrate what has been written :

My cellar is 6½ feet high, and 30 feet square, and under my house where we live. This cellar has three ordinary three-pane double cellar-windows, one on the east side, one on the south, and one on the west side. These windows render the entire cellar comparatively light. The walls are of stone, plastered with hydraulic cement mortar. Around the cellar on all sides a row of 2-inch drain-tile are laid a few inches below the level of the cellar, and leading out below the house, to drain the cellar (which is nicely accomplished).

The cellar bottom is covered about 2 inches deep with dry sand. This sand is used in preference to cement, as I regard it as being more healthful to the family and the bees. Every spring this coat of sand is removed, and a new coat returned in its place. Of course the cellar is sweet. It is also cool in summer, and warm in winter, as the entire bottom plays its part in radiating and absorbing the heat.

On the east side of the cellar, facing the east window, and about 10 feet from it, are three rows of hives, six hives in each row, piled one above the other, three high. Eighteen colonies of bees stand facing the east window squarely. Each hive has an entrance 23 inches long facing the window. The bees are at liberty to take in all the light there is, and the light is ample to read by.

They have all the daylight and brilliant light in the morning when the sun shines obliquely through the window into the cellar. The bees are at liberty to fly also, but few, however, take such liberty ; when they do, they head to the hive as if in the open air, and after a short fly, they dart to the window, where, of course, they die.

It will be said that the cellar is cold or the bees would not keep so still. The temperature has averaged, up to date (Jan. 17), 45° or more ; only once has it touched 40°, and then only for a few hours ; while most of the time it has shown 50°.

It is not as a matter of convenience that these bees are placed as they are. They have been so placed, because I believed daylight essential to the welfare of the bees. Next May, when the clover blooms, I shall know how well my belief was founded. Should it prove well founded, a valuable experiment will have been made public ; as it will then be reasonable to keep a few bees in an ordinary cellar. It is very pleasant to be able to see how the bees are doing, without the aid of a lamp.

To the bee-keeper having a fertile imagination, a long list of desirable features can be made possible in the "light" of the light cellar, as well as in the light of these experiments.

In this article no effort has been made to show that perhaps five months in a dungeon may be as detrimental to bees as to human beings ; neither that the absence of light for so long a period may or may not be as detrimental to bees in a cellar as a much greater degree of cold in the sunlight. Neither has it been the part of this article to

prove that spring dwindling, diarrhea, etc., would not have taken place had the bees affected with it been wintered in a light cellar instead of a dark one.

One point remains not yet clearly stated, viz: that it is not light that causes bees in a cellar to be uneasy. If, then, that is not the cause, of what value is it to surround them in impenetrable darkness? We have all seen bees slowly withdraw from activity to repose, as one by one the plants ceased to yield honey and pollen; and when no incentive to industry longer existed, how unbroken became their repose. Is there any evidence that darkness played any important part in such quiet? Were the bees more at rest in the night than in the sunlight?

The fact that bees do winter just as well under apparently much less favorable conditions in the open air, is, to say the least, a point in favor of the vitalizing influence of fresh air and sunshine!

Abronia, Mich.

BROOD-COMBS.

Large or Small Combs, and Divisible Brood-Chambers.

Written for the American Bee Journal
BY JAMES HEDDON.

It is with pleasure that I read the article by J. W. Cullinan, on page 39, on the above subject, controverting the mistakes of Mr. Hambaugh, on page 804 of the BEE JOURNAL for 1887.

It is undoubtedly highly proper and important that we discuss the merits of dividing one brood-chamber into two horizontally divisible parts, interchanging these parts instead of inverting. This brings us to the question of Mr. Cullinan's article on page 39, at the close of which he asked me to give an account of my success with the divisible brood-chamber.

At the beginning, I wish the reader to understand the difference between double brood-chambers, or several brood-chambers piled on top of each other, and one brood-chamber proper, divided into two parts, and constructed in such a manner as to be perfectly adapted to interchanging the parts with each other for special purposes. There has been so much said already that it seems unnecessary to enumerate and discuss each function by itself. I cannot see how full-grown men with any experience in the business can imagine any objection to the "sticks and spaces" that occur between the sections of the divisible brood-chamber. You all know very well that bees never breed up faster, nor winter better in any hive than in box-hives, so full of cross sticks that oftimes the combs are all in pieces running in almost every direction. Four years' experience has demonstrated the truth of my reply to Query No. 508, on page 39.

I once paid $18 for a box-hive which was ¾ full of comb, the capacity of the hive being ten times larger than the Langstroth; it contained about double the number of bees usually resulting from one queen; I doted on the large number of frames I should fill with comb when transferring this colony; upon opening it I found so many sticks running through it that I believe I got only 3 or 4 Langstroth frames of comb out of it; all the rest being in pieces no larger than your two hands. This colony had wintered safely, when many others had died by its side during the seven winters they had been in this hive. They had only swarmed two or three times during the seven years, but the swarms that issued were said to be of double size. When one section of the divisible brood-chamber is in use in the spring, before breeding has reached a status that more room is needed, its smaller size and shallow form both favor the conservation of heat in the brood-nest, and the bees breed faster than in any other hive I have ever used. That bees will breed up faster in the spring and keep warmer in the winter in shallow hives than in deep ones, is proven both by theory and demonstration. As cold is not the main cause of winter mortality, experience has shown but little difference as regards successful wintering. When the single brood-case, which is used in the spring, is well filled with brood, and more room is needed, the second one can be placed under it in the direction which the queen naturally breeds, downward, leaving the brood already on hand in the warmest part of the hive. This is the correct method of giving more breeding room. All can see it in theory, and I know it to be true from four years of direct experience.

It seems to me that any experienced bee-keeper should see at a glance, without any experiment whatever, (knowing from past experience that as the brood moves downward the upper portion of the brood-chamber is filled with honey), that the alternating of the two halves should cause the bees to carry this honey above, affording the queen the opportunity, and stimulating the disposition to fill that brood-chamber full of brood.

To close, I will say a word relative to our experience here, which, to me, tells very much. I have in use many of the best modifications of 8-frame Langstroth hives containing reversible Langstroth frames completely filled with straight, all-worker combs which I will not throw away. Hardly a day passes in the summer time, when my foreman and students are not making remarks something like this: "Oh, if all of your hives were of the new pattern!" "Why don't you transfer them all into the new hive?" "We can handle twice as many of the new style of hives," etc., etc.

Mr. Cullinan is quite right when he says we should not "imitate nature in the construction of our hives." Our hives should be fitted to the operator more than to the bees; and in conclusion I will say that we should adopt such hives and other fixtures as experience proves to be best.

Concerning Dr. Tinker's essay read at the Ohio Convention, and the discussion following it (see pages 86 and 87), I am glad to notice what was said about the MERITS of sectional brood-chambers. I think, however, that only Dr. Tinker could speak from experience—none of the others having more than one of the hives in use, if any. In the light of the article by Dr. Tinker, on page 154 of the BEE JOURNAL for 1886 (published also in *Gleanings* on page 203), many will wonder if the Doctor is not now in error instead of then—the two positions being diametrically opposed to one another. *I know that he is wrong now*, as do many good apiarists who have had experience with the sectional brood-chamber hive.

Dowagiac, Mich.

INDIANA.

Report of the State Convention at Indianapolis.

Written for the Indiana Farmer
BY G. K. HUBBARD.

In the absence of President F. L. Dougherty, Dr. Collins, of Hamilton county, was made chairman of the convention.

The discussion of honey-plants revealed the fact that Alsike clover is the favorite, being both excellent as a honey-producer and a forage plant. One member said that it was a good feed for milch cows, and thus was able to make "the land flow with milk and honey."

On the question of bees puncturing grapes, the opinion was unanimous that it was out of the power of the insect to do so. Mr. Muth, of Cincinnati, said that when wasps and hornets have punctured the grapes the bees will extract the juices, but their mandibles are not fitted for cutting through the skin. He said that the grapes would not be disturbed by the wasps

and hornets, if the bees are near the vineyard. He also recommended salycilic acid and carbolic acid as remedies for foul brood, but the only sure cure is fire.

On the second day the subject, "Women keeping bees and becoming members of the association," was discussed.

On bees freezing, Mr. Mason said that bees cannot be frozen in a cluster if the hive is dry, but they can be chilled to death if the hive is cold and damp.

Regarding wintering bees, Mr. Bull said: Three things are essential at all seasons of the year. They need honey, bee-bread, and water. If it is desirable to have bees winter well, do not fail to furnish water. It will prevent them gorging themselves. As to wintering out-doors or in the cellar, each had its advocates.

The association indorsed the resolution of the State Board of Agriculture on the State Library. The association also resolved to appoint a delegate, to co-operate with delegates from other societies in presenting this matter to the Legislature, with instructions to endeavor to secure an appropriation by the Legislature sufficient to cover the expense of publishing the association's report, and other expenses incidental to its annual meetings.

The following officers were elected for the ensuing year: President, Dr. E. H. Collins, of Mattsville; Vice-President, Wickloff Mason, of Fillmore; Secretary, Geo. C. Thompson, Southport; Treasurer, Mrs. Irvin Robbins, of Indianapolis.

The convention then adjourned.

BEE-ESCAPE.

Plans for Making Bee-Escapes for Extracting-Rooms.

On page 77, Albert H. Lind asks how to make a bee-escape for his extracting room. In reply to the question, Dr. C. C. Miller, of Marengo, Ill., describes his plan as follows:

Bees will fly to the light, so it is important that there shall be no light admitted to the room except where the bees can escape. The place for escape may be a hole in the wall a foot square, or it may be a whole window. In either case, cover the whole of the aperture with wire-cloth, and let the wire-cloth be large enough to continue a foot or so above the aperture. Now if the whole thing be nailed down tight, of course no bee can get out; so some plan must be devised to make the upper part stand out from the outside wall, for you understand that the wire-cloth is nailed on the outside, not the inside of the building.

At each side of the window nail a piece of common lath on the building, so that the lower end shall come 2 or 2 inches below the upper boundary of the aperture, and let the lath extend upward as far as the wire-cloth goes. Now nail the wire-cloth on the lath. It may be necessary to have a piece of lath midway between the two side-pieces, so as to hold the wire-cloth more firmly to its place. This makes an open space of ⅜ of an inch through which the bees can go up and fly off, but no bee will think of starting at the top to come in.

The sash must be taken out of the window, or if less light is needed the upper sash can be let down, and a cloth, no matter how thin, be hung over the sash inside. In this case the wire-cloth need not cover the lower part of the window, but pains must be taken to make the window bee-tight.

For greater economy, musquito-netting may be used for all but a foot or so of the upper part, and even that may be of musquito-netting, but it is so apt to get out of order.

Mr. S. Burton, of Eureka, Ills., gives his method as follows:

To make a bee-escape, I tack screen-wire on the outside of the window frame, and make a hole at the top corner of the window about 2 inches in diameter. Then make a tube of screen-wire about 5 inches long, to fit the hole in the screen; at the other end make about a half-inch hole. The bees will pass out at the hole, but none will enter. As they will go to the window to get in, there may be two or three such bee-escapes in the same window, if desired.

Rev. T. H. Dahl, of Stoughton, Wis., gives the following plan:

I will be glad to describe my own bee-escape, as it is an excellent one, and as far as I know it is the best yet in use. I would not part with it for fifty dollars, as it not only clears the honey-house of bees, but also of all other insects. It is not my invention, but it is used to a large extent among bee-keepers.

I use wire-cloth on the outside of all the windows in the room, and I fix it on so as to reach 6 or 8 inches above the window.

I put it on in this way: I nail a piece of lath as long as the screen on each side of the window, and fasten the wire-cloth on these pieces, and at the bottom of the window. There will then be an open space of ⅜ of an inch between the wall above the window and the wire-cloth. Through this hole all the bees will escape, and none return, as the bees or other insects always try to get upward, and not downward.

It is better to darken all other windows but one, when you will get the bees out, and of course it is not necessary to put wire-cloth on more than one window. By this "escape" I keep my honey-house entirely free from bees and flies during the whole summer.

Mr. Enoch Babb, of Herbst, Ind., writes as follows about his bee-escape:

I like my bee-escape very well, and it is made as follows: It is a common window in a double frames, that is, one frame inside of the other. Make the outside frame large enough to receive the inside frame containing the window, which should be put in like any ordinary window in a dwelling. To raise or lower it, put in a small bolt through both frames in the centre between the bottom and the top, oval the outside of the inside frame a little, and the window swings around and around.

Work near the window, and all the bees that are carried in will soon fly and alight on the window, when, in a twinkling, the window can be turned inside out. In real hot weather raise or lower one window-sash, and put in a wire-screen, or tack on musquito-bar to give ventilation.

BEE-STINGS.

The Rheumatism Cured by Bee-Stings, etc.

Written for the American Bee Journal
BY E. W. COUNCILMAN.

Mrs. L. Harrison, on page 57, favors some plan by which bees may be deprived of their sting. I emphatically protest! If such a thing is attempted, I shall certainly enter a complaint to Prof. Berge for cruelty to *insects*.

But laying all "pleasantry" aside, I want to say that everything has its uses, and nothing was made in vain. Three years ago, when I commenced bee-keeping, I was so afflicted with rheumatism that it was very difficult for me to stoop and pick anything from the ground. Indeed, I was a great sufferer from that terrible disease. After working among the bees for awhile, I noticed that my lameness began to disappear, and now I am comparatively free from rheumatism.

Last summer I learned for the first time that homœopathic physicians used the virus of the honey-bee for rheumatism. This set me to thinking. I am firmly of the opinion that the bee-stings (of which I have received a few), have been the cause of my relief, for I have taken no treatment for

that dread disease. So do not "dehorn" the bees!

In one part of my article, on page 56, I am made to say that the temperature of my cellar is from 32° to 45°, and in the closing paragraph it reads from 40° to 45°. Either I made a *lapsus calami*, or it was a typographical error. It should read "from 30° to 45°," to be exact.

In extreme cold weather it has been down to 28° at the bottom of the cellar, and in the spring, during soft weather, it was 45°. I meant to give the average (which I believe to be the secret of my success in wintering bees), which is from 30° to 45°.

Newark Valley, N. Y.

[It was printed exactly as written in the copy.—ED.]

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Apr. 11.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Colonies in Good Condition.—W. D. Renfro, Troy, Ills., on Feb. 7, 1888, says:

I have 27 colonies in good condition on the summer stands. Last month on two days they had good flights. I examined some of the hives, and they have plenty of bees and honey. As the last year was a poor one for honey, I got only about 300 pounds of comb honey, in one-pound sections. I am thankful that we have as much as we need for ourselves, and some to spare.

The Season of 1887.—M. L. Barney & Bro., Hartford, Wis., on Jan. 18, 1888, write:

We wintered 117 colonies last winter, and lost one colony by spring dwindling. We had a poor season last year. We sold $175 worth of bees and queens, and 4,575 pounds of honey. We have now on hand 140 colonies, all of which are doing well. We expect to lose a few colonies this winter, owing to an accident which prevented our preparing them properly for winter.

Few Dead Bees—Honey Trusts.—J. M. A. Miller, Galva, Ills., on Feb. 1, 1888, writes:

In 1887 I had only 2 swarms from 50 colonies, and about 20 pounds of honey. I had a lot of honey on hand last May, and I only realized about 8 cents a pound for it; now I notice that honey is selling in the same store for 30 cents per pound. That is a great change, indeed. I have 48 colonies safely stored in the cellar; some are quite strong, and others not so strong. I examined them yesterday, and all are as quiet as I ever saw them; yet they are quite lively, and for some cause, that I cannot explain, there is not a pint of bees on the cellar bottom. Why is this?

I was told the other day that a "honey trust" was being formed in Chicago, and that was the reason honey was so high and scarce. I think that the dry weather has had more to do with the scarcity and prices than any "trust." Hence, if we have a good season this year, the first honey that is put on the market will receive the highest price. Of course the price will soon fall, but not to where it was last spring.

[The formation of a honey trust in Chicago, is a *myth!*

As there are but few bees dead on the cellar bottom, the presumption is that late breeding gave them mostly young bees to go into winter quarters with, and consequently there are but few to die with old age.—ED.]

Value of Packing Bees.—Jno. A. Buchanan, Holliday's Cove, W. Va., on Jan. 25, 1888, says:

Mr. Seabright, on page 45, expresses himself as being in accord with the packing system. He began the last season with 63 colonies. They were strong, as they had been packed all winter and spring; he got 60 pounds of honey. His not-far-distant neighbor, Mr. Lewedag, from 26 colonies, wintered in single-walled hives, with but a cushion over the frames, secured 250 pounds of comb honey. Will Mr. S. "fix this up," so that it will help him out with his pet theory?

Bees Breeding Early, etc.—A. V. Kouba, Crete, Nebr., on Jan. 31, 1888, says:

We are having very cold weather this winter; on Jan. 15, the thermometer registered 32° below zero. My bees are being wintered on the summer stands, and so far they seem to be in fine condition, except one colony that is weak. We are having nice weather now, the mercury being up to 65°. The bees had a good flight to-day, and also a few days before. I examined the weak colony to-day, and contracted its brood-chamber to three frames. In the middle of one comb I found a circle of eggs. I opened the hive of a strong colony, and found three combs with eggs, in a circle from 3 to 4 inches in diameter. I prefer a good chaff hive, for wintering out-doors.

Wintering on Summer Stands.—J. Rosecrans, Auburn, N. Y., on Feb. 1, 1888, writes:

I commenced the season of 1887 with 7 colonies, increased them to 9 colonies, and took off 400 pounds of honey in one and two pound sections. The bees are on the summer stands without any packing or cushions, with only a piece of cotton-cloth. They were all right when last examined, and I trust that they will continue to be so. I wintered them last winter on the summer stands, in the same way, with the loss of only one colony, which starved.

Early Breeding of Bees, etc.—Wm. Stolley, Grand Island, Nebr., on Jan. 31, 1888, writes:

From Dec. 20, 1887 until Jan. 25, 1888, we had fearfully cold weather in central Nebraska; it was at zero or far below, and once even 35°, Fahr., below zero. On Jan. 26, it became warm enough for bees to fly, being 50° in the shade. Ever since it has been quite warm, and to-day the mercury was 60° in the shade. I have improved this warm spell, and overhauled all of my bees. The hives were cleaned, all chaff packing dried, and in a few cases frames of honey were put in, where the winter stores were insufficient to last the bees well into spring.

I found all of my bees in excellent condition, but I was surprised to find that a number of colonies had in one, two, and even three frames, patches of capped brood. My aim always is, to keep my bees from early breeding, and I cannot understand why they should breed earlier in this exceptionally cold winter, than in previous much warmer winters, since the winter packing is the same as usual; unless it is that my bees are wintering exclusively on natural stores, with lots of pollen, when formerly I removed the pollen as much as possible, and fed the best coffee A sugar syrup instead.

I will try to give my bees frequent flights, if possible, and thus I hope to prevent diarrhea and loss. I learn that many bees have succumbed to the cold that we have had in this section of Nebraska.

Cold Weather—Canadian Locomotive.—Chas. Solveson, Nashotah, Wis., on Jan. 31, 1888, says:

Bees in the cellar are wintering finely, but those on the summer stands are having a hard time of it, and it is not to be wondered at, with the mercury for weeks at from zero to 40° below, with but two or three abatements of but a day's duration. To-day, however, we are having mild weather.

By-the-way, how slow that Canadian "locomotive" travels! I have been patiently waiting for the sounds of the "merry bells" that were to convey such astounding news of an invention that would "cause a great commotion among the dry bones, and not yet extinct fossils of bee-dom;" and yet so simple that the relator could hardly refrain from "laughing out right at the stupidity of the whole tribe, that not one of their number ever thought of it before." Did you ever! Well, well! I hope Bro. Clarke will not keep us in suspense much longer, as I fear it will be the "whole tribe" that will laugh next, unless something turns up pretty soon.

[This is respectfully referred to Bro. Clarke for reply.—ED.]

Cleansing Flights for Bees, etc.—Evan R. Styer, Morgantown, Pa., on Jan. 23, 1888, writes:

On Nov. 14, 1887, I packed 11 colonies in a bee-house, placing the hives within 2 inches of each other, and putting meadow-hay around the insides. The house opens to the south. I fed 150 pounds of sugar syrup to 10 colonies, one colony having stored enough for winter use. On Dec. 9, bees had a good flight, and on Jan. 14 they had another cleansing flight. There was snow on the ground, and but few bees were lost in the snow. All the colonies have lost considerable in bees during the winter. If this continues until March, some will be weak. Some of the colonies have only six frames each, while the rest have eight. What comb honey I produced was nice, and I received 30 cents per pound for it; and now I am selling extracted for 18 cents per pound.

I prefer the two-story Langstroth hive to any other. I expect better results the coming season, as I intend to sow a great deal of Alsike clover seed, and will prevail upon my neighbors to do so.

The BEE JOURNAL is a welcome visitor at our fireside, and the information which I receive is of *great* advantage to me. Indeed, I cannot see how I could get along without it.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

Simmins' Non-Swarming System will be clubbed with the BEE JOURNAL for one year, both postpaid, for $1.25.

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White comb, 16@18c.; dark, 13@15c. Extracted, 7@10c. Market dull, but more active demand looked for when weather moderates.
BEESWAX.—21@22c.
Jan. 25. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—Choice comb, 18c., with some fancy held a little higher. Extracted, 7@9c. Demand light.
BEESWAX.—22@23c. R. A. BURNETT.
Jan. 21. 161 South Water St.

DETROIT.

HONEY.—Best white in 1-pound sections, 18@20c. Extracted, 7@8c. Demand small and supply fair
BEESWAX.—22@25c.
Dec. 15 A. C. KENDEL, 115 Ontario St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 16@19c.; the same in 2-lbs., 14@16c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off gradee 1@2c. per lb. less. White extracted, 8@9c. Market dull.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Jan. 20. 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glaased, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.,; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Feb. 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—Choice comb, 18@20c.; latter price for choice white clover in good condition. Strained, in barrels, 5@6c. Extra fancy, and of bright color and in No. 1 packages, ¼-cent advance on above. Extracted, in bbls., 6½@7c.; in cans, 7 to 9 cents. Short crop indicates further advance in prices.
BEESWAX.—20c. for prime.
Dec. 19. D. G. TUTT & CO., Commercial St.

CINCINNATI.

BEESWAX.—Demand is good—20@22c. per lb. for
HONEY.—We quote extracted at 4@8c. per lb. Choice comb, 16@20c., in the jobbing way. Demand fair and supply good.
good to choice yellow, on arrival.
Jan. 24. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17@19c.; fancy 2-lbs., 15@16c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Extracted, white, 9@10c.; buckwheat, 6@7c.
Demand has slackened some, and to make sales we must shade above prices. About Jan. 15 we expect a more active demand.
Dec. 31. F. G. STROHMEYER & CO., 122 Water St.

PHILADELPHIA.

HONEY.—Fancy white 1-lbs., 18@19c.; fair 1-lbs 17c.; dark 1-lbs. are slow sale at 14@15c.; fancy 2-lbs., white, 15@16c.; buckwheat fancy 1-lbs., 13@14 cts.; common, 12c. Prices tend downward.
BEESWAX.—23@24c.
Dec. 11. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 18@19c.; 2-lbs., 15@16c.; 3-lbs., 14@15c. Dark and broken not quotable. Extracted, white in kegs and tin, 9@9½c.; ½-barrels and barrels, 8½@9c.; dark and mixed in same, 6@7c. Market slow; better demand expected.
BEESWAX.—22@25c.
Feb. 2. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 13@16c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@8½c. Market quiet.
BEESWAX.—20@24c.
Feb. 4. SCHACHT & LEMCKE, 122-124 Davis St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@15c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Jan. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is light.
BEESWAX.—21 to 22c.
Jan. 10, HAMBLIN & BEARSS, 514 Walnut St.

DENVER.

HONEY.—Best white 1-lb. sections, 19@20c.; 2-lb. sections, 16@18c. Extracted, finest grade, 12½c.; dark, 8@9c.
BEESWAX.—20@23c.
Jan. 16. J. M. CLARK & CO., 1409 Fifteenth St.

SAN FRANCISCO.

HONEY.—We quote: White comb, 17@19c.; amber, 12½@15c. Light amber to white extracted, 7½@8c.; amber, dark and candied, 6¾@7¼c. Market firm and stocks light.
BEESWAX.—22@23c.
Dec. 12. O. B. SMITH & CO., 423 Front St.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	2 00	1 80
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers..	5 90	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Simmins' Non-Swarming	1 50	1 25
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
Cabbage and Celery	1 25	1 15
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

This is the Time for reading. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books, and can fill all orders on the day they are received.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00,

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON.
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Feb. 22, 1888. No. 8.

EDITORIAL BUZZINGS.

"All is not gold that glitters."
Worth is not measured by show.
Noise is not always productive.
Works make the world's clock go.
The drone is the noisiest bee in the hive,
Yet he brings not a drop to keep him alive.
The plain busy workers are early afield,
And by constant labor their worth is revealed.
—EUGENE SECOR.

Mr. W. Z. Hutchinson is seriously ill; lung trouble being added to his fever. This will retard his recovery. This is particularly unfortunate at this juncture in the history of the *Review*. We hope to be able to give better news next week.

Died at the residence of her son, W. O. Titus, 86 Hicks St., Toledo, O., on Feb. 5, 1888, at 3:30 p.m., Mrs. Eliza Titus, aged 76 years. Mr. Titus is one of the BEE JOURNAL family, and an ardent lover of bees. Since losing his wife several years ago, he has devoted his attention and energies to his widowed mother, who has been in her second childhood for years, as though she was all he had on earth to love. We condole with our brother in his bereavement.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Scatter the Leaflets.—Look at the list (with prices) on the second page of this paper.

Alsike and Melilot.—Mr. Peter J. Bates, of Whitehall, Ills., writes for information as to these two honey-plants:

As there is scarcely any Alsike, and to my knowledge no sweet or melilot clover grown in this locality, and as most of the farmers consider the two as one plant, to describe the difference, if there is any, in a short article in the AMERICAN BEE JOURNAL, would be very satisfactory to me and to others wishing to propagate it.

Alsike clover and *melilotus alba* are very dissimilar, as will be seen by the engravings of both, given on this page.

Alsike is a hybrid of the red and white clovers. The stem and the branches are

ALSIKE CLOVER.

finer and less woody than the red. It does not turn black, but remains the color of well-cured timothy. It has, as the engraving shows, numerous branches, and a multitude of blossoms which are very rich in honey. The blossoms at first are white, but soon change to a beautiful pink, and emit considerable fragrance. The leaves are

MELILOT CLOVER.

oval, of a pale, green color, and may readily be distinguished at any stage of their growth from the white or red clover, by the total absence of a pale, white blossom on the upper surface of each leaf.

Melilot is a biennial, and blooms from the middle of June until November. It is hardy, and flourishes on any soil. Its flowers are very modest, but perfume the air generously in all the surrounding locality. Both plants are alike in one thing—they supply the bees with nectar plenteously, and the honey from the bloom of each is of the best quality.

The Bee-Keepers' Union needs a thousand more members. It now takes only one dollar a year as membership fees, and no more will be asked for unless the members vote it themselves. Why there are not ten thousand members is the great mystery. The following letter from Mr. J. Few Brown of Winchester, Va., sets a good example, and speaks in a business-like manner:

I have read Mr. Z. A. Clark's letter in regard to his arrest by order of the Mayor of Arkadelphia, Ark., and your note urging upon bee-keepers the importance of paying their dollar and joining the Union, thereby assisting in "lifting up a successful standard" against the ignorant and prejudiced enemy, and also securing for themselves the benefit of the Union, should necessity arise.

Although I have paid my dues to the Union for the present year, I hereby authorize you to draw on me at sight for $3 more, if you fall short of the amount needed in assisting Mr. Clark in defending his suit, and present certificates of membership to three of the most likely persons to have similar action brought against them. I do not imagine there is a single bee-keeper who would not be willing to give 8 or 10 pounds of honey each season to assist a brother bee-keeper out of trouble, and why not give a dollar, especially when they know not when they may be the beneficiary themselves.

The past season was the poorest, except one, for honey in this locality we have had for twenty years, and the hardest in my experience for selling what little was produced. I think bee-keepers might help the demand for their product if they would form themselves into a committee of the whole, and resolve whenever they take a meal from home, especially at a hotel or public house, to ask for honey, even if the meal costs a little extra.

Mr. Arthur Todd, of Philadelphia, Pa., died on the 11th inst., and was buried on Tuesday, Feb. 14, 1888, at 2 p.m. We hope to be able to give a biographical sketch in our next issue. We know nothing of the cause of death, and hence it is the greater surprise. His age was 46.

When last we met it was in Paris, France, eight years ago, and we then took a voyage together between heaven and earth, in a balloon. It was a very pleasant visit we then had. Since then he came to America, settled in Philadelphia, and was a prominent member of the Philadelphia Bee-Keepers' Association.

The Lecture of Prof. N. W. McLain, which we mentioned sometime ago, is to be delivered before the "Academy of Sciences" at Stevens' Art Hall, 24 Adams-st. Chicago, on Monday, Feb. 27, 1888, at 8 p.m. The subject will be the "Construction and function of bees;" which will be illustrated by large charts. Prof. Higley will preside. Seats will be *free*, and all will be welcome.

This is the Time for reading. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books, and can fill all orders on the day they are received.

BOOK REVIEWS.

BEES AND BEE-KEEPING.

Mr. Cheshire's second volume, entitled "Bees and Bee-Keeping," is on our desk. It contains 650 pages, and is nearly twice as thick as the first volume, which was devoted to the "Scientific" portion. This book presents the "Practical" part of bee-keeping. Like the former, it is beautifully printed and bound, in the highest style of the art. These volumes can be obtained at this office: Vol. I, $2.50; Vol. II, $3.00.

After reviewing the Langstroth and Quinby hives, the Bingham hive is described and the author remarks concerning it:

If the bees are to be examined, the hive can be opened at any desired spot; increase or decrease, division or union; even tiering up, can be performed with celerity. For the latter purpose, however, the Bingham hive is most suitable.

Mr. Cheshire then introduces and illustrates the Heddon hive, and of the divided bee-spaces remarks:

This principle of allowing a half bee-space above and below, in each horizontal section of the hive, so that the needed ⅜-inch, and no more, is given in any possible combination, is a salient and new feature in the Heddon.

The queen-excluding honey-board with alternate perforated zinc and wood strips, as used on the Heddon hives, is approved by Mr. Cheshire. While criticising and disapproving of the "close-ended frames" of the Heddon hive, he says:

We must, to be fair, remember that the idea is to manipulate hives, not frames, and that almost every required operation can, it is held, be performed without the removal of the latter.

After comparing it with Mr. Hooker's (English) hive, the author remarks thus:

It would be both unphilosophical and unfair thus to dismiss the Heddon without noting that it has called our attention to some points of great moment, and that it has also interwoven with old plans, novel methods which will hereafter make their mark. It is narrowness, not patriotism, that would deny to one of another country his full meed of praise, and I conceive that the unprejudiced will not dispute that the half bee-space in each hive section, and in the bottom-board—the narrow, abbutting edges, giving possibility of rapid handling—and the general invertibility of the whole, although associated, perhaps, with some crudities, yet mark another hill-top passed in the progressive march of practical apiculture.

The "Alley drone and queen trap" is illustrated and described, with others of English make. They call them "swarm arrestors." What we call "comb foundation," is herein named "wax midrib." The Root, Van Deusen and Pelham comb foundation is described, after giving a general history of the invention. Of bee-smokers, Mr. Cheshire, after mentioning many kinds, remarks thus:

All the different forms of these are practicably reduced to two—the Bingham and the Clark....The Bingham is mostly used, and is my preference.

Mr. Henry Alley's method of queen-rearing is fully described and illustrated. Mr. Cheshire disagrees with Mr. Alley in some details of management.

Folding or one-piece sections are described, illustrated and approved, and many section-cases are represented.

The history of the honey-extractor is recounted, many kinds are delineated, and the salient points of each detailed. Of uncapping knives, Mr. Cheshire remarks:

Thin-bladed knives, turned up near the end, to permit of cutting into hollows, are frequently used, but the Bingham-Hetherington knife is justly the favorite. The stout blade is so beveled that it must be kept up from the comb, whereby the "cling" is greatly reduced. The edge should be keen, and the hollow front permits of sharpening on a hone. It is helpful to use the knife hot; the best plan being to have a pair—one standing in heated water while the other is in hand. The water should not boil, or the wax will be melted and adhere to the knife, delaying the operation.

But we cannot pursue it further in this brief review. It is a pity that the book should have been published in "parts," for, when put together, its subjects are considerably mixed up, and there is some repetition. The chapter on hives is bewildering, especially to a beginner. If the book had been written more concisely, and less of the minor details given, it could have been published in one volume, and would have been far more acceptable to American readers. Its price is not excessive for the amount of matter given, but at one-third the price with a corresponding quantity, it would have found its way into thousands of apiaries where now it will never be seen.

We are sorry to notice that the author used the adjective "apiarian" instead of the noun "apiarist." He repeatedly calls queen-rearing, queen-raising; and also mentions drone-raising and worker-raising. In speaking of laying worker-bees, he incorrectly calls them "fertile workers."

While he enumerates many American inventions, methods, and prominent apiarists, several of the latter are conspicuous by the absence of their names, which cannot be accounted for by an oversight. This, with some other defects we have noticed, prove the correctness of the poetic quotation on page 195 of his book:

"He that expects a perfect thing to see,
Expects what ne'er was, nor is, nor e'er shall be."

"The Western Bee-Keeper, especially adapted to apiculture in the Mississippi Valley—West, Northwest and Southwest," is the title of a new quarterly published by Joseph Nysewander, Des Moines, Iowa, at 25 cents a year. The first number came to hand on the 13th, just as our last issue was printed. It contains 16 pages, is nicely printed, and has 12 pages of reading matter, comprising many items of interest. This makes the second bee-paper already started in the first month of a year succeeding the most notable failure of a honey crop in a decade. The *nerve* of the publishers deserves success, and their papers are a credit to the pursuit.

GLEAMS OF NEWS.

Bees Gathering Honey in January.—H. G. Burnett writes to the Florida *Farmer and Fruit Grower*, as follows:

It does the heart of the bee-keeper good to hear the bees hum in these bright, sunshiny January days. How busy they are! From daylight till dark they are busy rifling the purple bloom of the pennyroyal of its hidden nectar. I pause frequently in my work in the nursery or garden, thinking I hear a "swarm," but it is the roar of the wings of the busy thousands going or returning heavy laden with their precious spoils. It reminds me of my experiences in old Iowa, during a good "clover season," only the clover bloom seldom lasted over a month, while the pennyroyal lasts four months here.

Bees are now building up—some even starting queen-cells for swarming—and all are fast filling the upper stories of the hives with the thick, heavy, minty-flavored pennyroyal honey.

I have seen bees at work late in the day on pennyroyal bloom that in the morning was white with frost. The pennyroyal is very persistent in honey secretion. I have watched the bees working on one clump of plants day after day for over three months, and have counted over a dozen bees at work there at one time, and if the day and hour were propitious, never less than half a dozen, yet the "supply" seemed equal to the "demand."

The General Opinion is that the bees are wintering finely so far. Mr. T. F. Bingham writes: "Here the bees are wintering very finely, I think, though they have yet had no chance to fly."

Mr. C. H. Dibbern, of Milan, Ills., on the 4th inst., wrote as follows:

We have not had a day warm enough for bees to fly, for more than two months. This morning it was 22° below zero. Bee-keepers who winter out-doors, will lose disastrously. Mr. Wright, near Davenport, Iowa, has already lost 100 colonies out of 140. Others in this vicinity have suffered nearly as much. Bees in winter repositories are all right.

Mr. C. H. Putnam, of Galesburg, Ills., on Feb. 8, wrote as follows about the bees:

Having just examined my bees, I can report that, thus far, they are in excellent condition, and are wintering finely. They are very quiet, and no signs of disease are visible as yet.

I have now 114 colonies, which were put into winter quarters on Dec. 12 and 21, 1887, which was the latest they ever remained out. They are in two double-walled bee-houses, where successful wintering has been the rule for several years.

The temperature at which the bees remain in the most quiet state is 42° to 45° above zero. Last season was the poorest that I have known in the 15 years I have been in this locality. I had only one new swarm, and no surplus honey worth mentioning from 113 strong colonies in the spring of 1887. The most of them had sufficient honey to carry them through the winter, though lest some might come short I fed a quantity of old extracted honey remaining on hand. Last fall I weighed each colony separately, and allowed them from 30 to 35 pounds of honey each, after deducting the weight of hive, frames, combs, etc.

While it is rather discouraging to contemplate the dismal failure of the past year, it may yet prove a "blessing in disguise," and if we only have a good season this year, I shall not complain.

BIOGRAPHICAL.

Wintering Bees in the South by Mr. T. F. Bingham.

In continuation of the biographical article on page 21, we here present some items of interest in addition to those there found, giving his experience in wintering bees. We also present another and better engraving.

In my hastily-written sketch, on page 21, I think that perhaps I omitted some facts that would interest the readers of the AMERICAN BEE JOURNAL, if they are not of profit to them, viz: No mention is made of my change from New York to Michigan. I sold out my apiary in Gowanda, N. Y., in 1867—all the bees but one colony, which I brought to Allegan, Mich., to which place I went to carry on the jewelry business. Immediately upon locating there I bought 20 colonies of bees, which, on the approach of winter, were put into the cellar under my house. In January and February, after I was through business at the store, as I had no time by daylight to do the transferring, the 20 colonies were transferred by lamplight in my kitchen, to shallow framed hives, and returned to the cellar again.

The following spring and summer were favorable, and the bees did well. In the next season I bought 60 colonies more, and soon had them in flat hives also, and a season's product of fine honey was the result. The winter was provided for by enlarging the cellar under my house, so as to hold my stock, then about 150 colonies.

This was the winter following the National Convention held in Cleveland, the one over which the lamented M. Quinby presided. Fatal results followed that winter, and by the first of May I had but 22 colonies, and small at that. However, the next season was good, and 90 colonies with considerable extracted honey were ready for another winter's trial.

Disgusted with my last cellar experiment, I built a frame building large enough to hold 150 colonies, placed on shelves around the walls. This bee-depository was all above ground, but had a cement floor (plastered on the gravel). The walls and gable were filled with dry planing-mill shavings. The bees wintered finely. The following May my bees were all taken to Abronia, which, at that time, was all timber, about 10 per cent. of which was basswood.

A two-story bee-house was built there, and arranged for outside warming. The walls were thick, and filled with sawdust, and shelved, as was my bee-house in Allegan. The season was good, and I had a large crop of fine basswood honey, and a big fall crop of boneset on which to winter my bees. They did not do well. May found me again with only 24 weak colonies out of 280, fall count.

I purchased all the bees I could find to recruit my apiary and save my combs.—Only a few, however, could be found, as nearly all the bees in the county had died.

That season my honey returns were small, but my combs were saved, and I had 180 colonies for my depository again, and all the hives were full of boneset honey, as in the previous autumn. They were left later on the stands, and as death seemed to have hold of them again, the depository was warmed slightly, with a faint hope that it would be of value to the bees.

May again found me with 16 colonies. Bees were now bought in Kentucky and Tennessee to stock up my apiary again. My combs were again filled, and my decision was made to take my bees, with hives again full of boneset honey, to Tennessee to winter. With hope, in November, the car was started for Edgefield Junction, 10 miles from Nashville, as the place for the experiment.

The same diarrhea showed itself there, though the bees could and did fly as often as once in ten days. The spring dwindling was heavy, but not fatal. Nearly all the colonies came up to time, and were again taken to Abronia for a summer's work. In moving, however, all the unsealed brood was taken out, and breeding stopped. Cold weather followed, and at the end of a month, when clover was in its prime, I had only a few bees to gather honey.

Basswood, however, gave my then populous colonies a fine run, and I had honey to sell, besides 200 colonies ready for Tennessee again. I had determined again to winter there, and return a little later, and put in practice some points gained.

Accordingly, in September, nearly all the honey was extracted, and the bees put on board of a car. The weather became hot, but only one colony was injured in transit. The asters of Tennessee bloomed a few days after my arrival, and the bees got all the honey needed for their winter use.

On the aster honey they prospered finely. There was no spring dwindling, and no tired, worn-out bees, and spring breeding

MR. T. F. BINGHAM.

went on apace. Dr. Hamlin's apiary was then about a mile from my bees. Now was a good time to note the breeding qualities of my half-depth, no-bottom frame by the side of the standard Langstroth frame, under similar circumstances, and in large numbers (not one, single, isolated trial), as Barnum and Peyton, then the owners of the lamented Dr. Hamlin's apiary, had about 200 colonies. The result pleased me, and was a great wonder to the deep-frame men.

This time the hives were brought home packed with mature bees, just in time for clover bloom. They came safely, all but 3 colonies, which, while standing over Sunday on a side-track in southern Michigan, partly melted down, and failed entirely. The unsealed brood in all the hives had been taken out by the bees, and I had as before only old bees left to keep up the work of the hive and gather honey.

The results were no better than before. I got the clover yield, but failed to get the basswood. I had, however, some honey to sell, but my hope of wintering bees in the South and getting their honey in the North, advantageously, had been blighted. I should not again try the experiment.

I now resolved to make small, one-roofed houses, each of all the six sides to be separate panels, and the corners to be held with short pieces of hoop-iron. These houses would hold 3 colonies each, and an extra set of frames to each hive, (that is, one hive above the other), the two having but one bottom-board. Around the three hives, on all sides and beneath, 7 inches of after-math, or fine hay was packed; while on top of the two sets of frames (constituting one hive for winter), 14 inches of fine hay was packed.

This plan proved a success, and cheaper than Tennessee wintering and transportation combined. The first winter, however, demonstrated that the entrances were liable to become clogged with dead bees. To avoid this danger, a rim or frame the size and shape of the bottom of the hive, was made and put on the bottom-board for winter only. This rim raised the combs 2 inches from the bottom-board, and allowed all the dead bees and litter to remain beneath the combs, without detriment to the bees. This plan, and the absence of boneset honey for winter, has enabled my bees to winter with safety and success.

T. F. BINGHAM.

ITEMS OF INTEREST.

A New Postal arrangement has been made between the United States and Canada, to go into full effect on March 1, 1888. Articles will be allowed to go into either country if admitted by the domestic law of either, except sealed packages (which are other than letters), and publications which violate the copyright laws of the country of destination, liquids, etc.

All articles exchanged under this arrangemet are required to be *fully* prepaid with postage stamps, at the rate of postage applicable to similar articles in the domestic mails of the country of origin, and are required to be delivered free to addresses in the country of destination.

Articles other than letters, in their usual and ordinary form, on their arrival at the Exchange Post-Office of the country of destination, will be inspected by custom officers of that country, who will levy the proper customs duties upon any articles found to be dutiable under the laws of that country.

More Bumble-Bees for Australia.—The clover in Australia is in danger of dying out, because of the lack of sufficient bees to fertilize the blossoms. Several large quantities of bumble-bees have been sent there for that purpose, and now we note by the following from the Pittsburgh, Pa., *Commercial Gazette*, that another shipment is to be sent from Kentucky:

Joseph McDonell, of Lexington, Ky., has achieved prominence lately by his expressed desire to buy $10,000 worth of Kentucky bumble-bees that understand the management of clover. They are to be sent to Australia to assist in growing clover there by carrying pollen from bloom to bloom. A gentleman who came from Australia last fall, and bought some stock from Mr. McDonell, made the arrangement with McDonell to supply him with the bumble-bees, and they will probably be gathered from the crop of next season. It has been known for years that it was necessary to have them in Australia. It will make business for the small boy of this country, and fun for the Australian school-boy in time to come.

QUERIES AND REPLIES.

WATER FOR THE BEES IN WINTER QUARTERS.

Written for the American Bee Journal

Query 517.—Is it essential to water bees while they are in winter quarters?—C. K., Minn.

No.—DADANT & SON.

No.—J. P. H. BROWN.

No.—JAMES HEDDON.

No; and do not do it.—R. L. TAYLOR.

Not if they are quiet.—M. MAHIN.

All of my experience says, NO.—G. M. DOOLITTLE.

Sometimes it is, and sometimes it is not.—A. B. MASON.

I have never found it so.—J. M. SHUCK.

It might be under certain circumstances, though I have never done so.—J. M. HAMBAUGH.

If in a cellar, yes; say twice a month, during February and March.—MRS. L. HARRISON.

I think generally not. I do not water mine.—C. C. MILLER.

I do not know. Many say that it is necessary toward spring, when they begin breeding.—W. Z. HUTCHINSON.

Under ordinary circumstauces bees do not require water while in winter quarters.—C. H. DIBBERN.

Not at a low temperature; but if bees become uneasy at a high temperature, water will tend to keep them quiet.—H. D. CUTTING.

I have never considered it so. I give water, though, in early spring, after breeding has fairly started.—J. E. POND.

No; and as bees winter admirably with no pains or care of this kind, I do not think that it is advisable.—A. J. COOK.

I have no experience. We let our bees, here in the South, remain on the summer stands all the year round, and in winter it is very seldom that they are 3 or 4 days without a flight.—P. L. VIALLON.

I would not think it necessary or desirable, unless toward spring when they begin to breed and are uneasy. Then, if a little water will quiet them, it may be a good thing. I have never practiced it but one year. It is too much labor.—EUGENE SECOR.

I do not think that bees need water in their winter quarters, unless they are in a very dry place, and kept at a high temperature. I came very nearly drowning a colony in the cellar some weeks ago, while experimenting with an enameled cloth over the frames.—G. W. DEMAREE.

I have tried it, but I did not think that it did any good. Last winter I had a few colonies that were uneasy in February, so I gave them water in fine shavings of the poplar. I saw them lap it up, but it did not quiet them. A flight did.—G. L. TINKER.

It is not essential, but some do provide water for those in cellars when they commence to breed in the spring.—THE EDITOR.

WHICH SIDE OF A HILL FOR WINTERING BEES?

Written for the American Bee Journal

Query 518.—In wintering bees out-doors, would it be better to have the apiary on the south side of a hill, facing south, where the hives get plenty of sunshine; or on the north side of a hill, facing north, and no sunshine, as some have contended?—Bee-Keeper.

I would take the south side.—W. Z. HUTCHINSON.

Give me the southern slope, every time.—G. M. DOOLITTLE.

Give them all the sunshine possible.—M. MAHIN.

The south side forever, in *out-door* wintering.—MRS. L. HARRISON.

I prefer the south side for this locality.—H. D. CUTTING.

The south or southeast hill-side is my preference.—J. M. HAMBAUGH.

On the south side, by all means, in my judgment.—J. E. POND.

In a northern climate, I should much prefer the south side.—R. L. TAYLOR.

I should say on the south exposure. But it may depend upon the climate somewhat.—EUGENE SECOR.

Facing south, by all means, if you do not want to lose your bees. There is nothing worse than a northern exposure.—DADANT & SON.

I prefer the apiary on the north side of the hill in a warm climate, and on the south side in a cold climate.—J. P. H. BROWN.

I would prefer a southeastern slope to my apiary grounds. But I have had my apiary on four sites in the past, differing widely from each other, and I have really seen but little difference as to the results.—G. W. DEMAREE.

I would give them all the sunshine possible, in out-door wintering. I have been experimenting on this line for a number of years, and I almost invariably find that those colonies winter best that are protected by a tight board-fence, or other protection from the north and west, and have the most sunshine. I am trying a plan now, by raising the rear of the hives to an angle of 45°, facing south. Of course it is necessary to shade the entrance during bright, sunny days, while a light snow is on the ground.—C. H. DIBBERN.

I should not choose either location, but if obliged to use one or the other, I would choose the south side, and shade the hives.—A. B. MASON.

Here in the South our bees remain on the summer stands during winter, and I have always found those that have the full benefit of the sunshine in winter fare better than those that are too much in the shade.—P. L. VIALLON.

I should prefer the south side. While I may be wrong, I believe in a south slope for the bee-yard.—A. J. COOK.

I have had much experience in out-door wintering, and I prefer all the sunshine I can get, for the purpose.—J. M. SHUCK.

I prefer the south side of the hill; and if at any time the sun should tempt the bees out when they ought not to fly, place a small shade-board in front of the entrance.—JAMES HEDDON.

I would prefer an apiary on the south side of a hill. The more sunshine there is, the better. To-day (Jan. 24) I saw bees flying in the bright sunshine, with the mercury 26° in the shade. But few came out, and all got safely back.—G. L. TINKER.

I am not sure which might be better for the winter alone, but as the bees would probably stay in the same place during summer and winter, I should much prefer the south side.—C. C. MILLER.

In a northern latitude, place the bees on the south side of the hill. In the South some prefer the hives to face the north, but all desire them to have all the sunshine possible.—THE EDITOR.

CONVENTION NOTICES.

☞ The second annual meeting of the Southwestern Iowa Bee-Keepers' Association will be held at the Court House in Red Oak, Iowa, on March, 6 and 7, 1888, when these subjects will be treated: Spring dwindling and how prevented—What time to transfer and Italianize—Spring management of bees—What are the most essential points in locating an apiary?—What size, width and form of section for comb honey?—Extracted honey, what should be its price compared with comb honey?—The sectional brood-chambers of bee-hives—Wide frames or section cases for comb honey—Use of comb foundation in Southwestern Iowa—Should the upper story of hives be double or single thickness for the production of comb honey? All bee-keepers are invited. Come prepared with questions for the Query-Box. Ladies are specially invited. E. W. PITZER, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

CORRESPONDENCE.

SONG OF THE BEES.

D. AIKEN.

We watch for the light of the morning break,
And color of the grey eastern sky,
With its blended hues of saffron and lake,
Then say to each other, "Awake! Awake!"
For our winter's honey is all to make,
And our bread for a long supply.

Then off we hie to the hill and the dell,
To the field, the wild-wood and bower,
In columbine's horn we love to dwell,
To dip in the lily with snow-white bell,
To search the balm in its odorous cell,
The thyme and the rosemary flower.

We seek for the bloom of the eglantine,
The lime, painted thistle and brier,
And follow the course of the wandering vine,
Whether it trail on the earth supine,
Or 'round the aspiring tree-top twine,
And reach for a stage still higher.

As each for the good of the whole is bent,
And stores up its treasure for all,
We hope for an evening of heart's content,
For the winter of life without lament,
That summer is gone, with its hours misspent,
And the harvest is past recall.

—*Bee-Keepers' Magazine.*

DRONES.

At what Age are Drone-Bees Disposed to Mate?

Written for the American Bee Journal

BY REV. L. L. LANGSTROTH.

Since writing my last article, on page 55, I have had the pleasure of seeing the first volume of Mr. Cheshire's admirable contributions to the physiology of the honey-bee. Without defining the time when the drone is disposed to mate, Cheshire demonstrates microscopically that the drone cannot be fit for this office until it is several days old at least, and my observations seem to show that sexual desire comes much later.

Mahan, as stated in my work on bees, seems to have first made the important observation that drones leaving the hive to mate, have a large supply of honey, which on their return is found to have been almost entirely consumed. I did not ascertain how many marital excursions the drones would average on a single day, but as they are often flying in favorable weather about three hours, it seems probable that a drone makes three such trips at least. To do this, the drone must consume twice as much honey as a swarming worker whose honey-sac carries from the hive almost a week's supply. The importance of preventing any over-production of drones is therefore obvious without further comment.

Let me here make some suggestions to those who think it best to exclude all drone-comb from most of their colonies. I say *suggestions*, because I fully realize that after being wholly precluded by ill-health, from the practical management of bees, for most of the last fifteen years, it would ill become me to speak in too confident a tone. In limiting the production of drones to just as few as we think will be needed for the timely fertilization of our queens, may we not go contrary to those wise precepts, "There is that scattereth and increaseth yet more; and there is that withholdeth more than is meet, but it tendeth only to want?" It is very easy to take it for granted that every bee in a healthy, populous colony, will do all that it possibly can for the prosperity of the hive, even in the entire absence of drones. So it is easy to assume that every bee in an "artificial" swarm will work just as well as it would in a natural one. But who that has had a large experience with both methods, can deny that for the production of comb honey at least, the natural swarm has that spur in the head, which artificial processes never seem to give it? Is it not reasonable to think, that for its highest prosperity, every colony of bees should be in a normal, that is to say in a natural condition?

What can be more certain than that strong colonies with very few or no drones, in the very height of the honey-harvest when such colonies crave them so much, are not in a proper condition to stimulate them to do all that they are able to do? Their owner may know that in his apiary there are drones enough for all needed purposes; but how is he to impart this information to the droneless colonies, when every healthy colony, by the fiat of the Creator, seeks such conditions as would be proper, if there was not another family of bees on the face of the earth? So far, therefore, from grudging to any colony a goodly number of drones, I would prefer to have one-third drone-comb in one of the central combs of the hive of each breeding colony.

I will conclude this article by giving some observations which show that to insure the mating of queens, many more drones seem to be needed than is commonly supposed. At the time I made my observations in 1885, a drouth had cut off the gathering of honey for so long a time, that I had no reason to suppose that any drones could be found for the mating of my queens, except such as I had bred and kept alive by daily stimulative feeding. Now for over two weeks, I had more than a dozen young queens which flew out nearly every day for mating, and some of them I know made several excursions on the same day. I had over 200 drones, and yet only a single queen laid any eggs. When the weather became too cool to expect any favorable results, I dissected the other queens and found that none of them had mated. Now when my apiary was so largely devoted to queen-breeding, and I had thousands of flying drones, I had great success in the mating of queens at the same time of the year, and under circumstances no more favorable than when in 1885 I so signally failed.

Dayton, O., Feb. 10, 1888.

STATISTICS.

Securing the Statistics of Bee-Keeping.

Written for the American Bee Journal

BY J. M. YOUNG.

As the Statistician of the Department of Agriculture wishes statistics about bee-culture, so that a full and complete report can be made of this special industry, it is the duty of every bee-keeper throughout the country to assist in making out a report in regard to bees and honey. This matter has been referred to me to obtain as far as possible, this information from eastern Nebraska.

The matter of obtaining correct statistics is one of no small moment, and yet if every bee-keeper who reads this will lend a helping hand, and "put a shoulder to the wheel," a vast amount of information may be gained with but little labor. These reports, when all are in, or as many as we think we can get, will be forwarded to the Statistician of the Department of Agriculture, and very likely be published. Therefore every friend to the progress of bee-culture is earnestly requested to assist in making these reports as complete as possible. Let every bee-keeper in eastern Nebraska, who may read this article, send to me his name and full address; the number of colonies of bees that he had in the fall of 1887; how many in the spring of 1888; how wintered, in-doors or out-doors; and, if possible, how many pounds each, of comb and extracted honey obtained last year; the number of pounds of beeswax, and whether movable-comb or box-hives are used in the apiaries.

Send to me not *your own* statement simply, but that of your neighboring bee-keepers who you have reason to believe do not read bee-papers, and who are not likely to send in their own reports. If you do not choose to write a letter, the whole thing can be written on a postal card. Write very plainly, and address, J. M. Young, Rock Bluffs, Cass Co., Nebr.

SOME REPLIES,

To Questions which All were Invited to Answer,

Written for the American Bee Journal
BY C. P. HEWETT.

The questions were published on page 42, and are as follows :

1. How many keep a daily record of the temperature and degrees which they prefer in their depositories ?
2. How many believe in hibernation ?
3. How many can winter colonies on from 3 to 6 pounds of stores ?
4. How many have had bees steal eggs, and from them make queens ?
5. How many have had queens fertilized that did not leave the hive ?
6. How many have had queens become re-fertilized ?
7. How many have had queens die with the drones, on their bridal trip ?
8. How many have had bees hibernate, and remain so until taken out in the spring-time ?
9. How many can tell that they have a queenless colony in their apiaries, by seeing bees trying to steal eggs, before they notice the colony which is queenless ?
10. How many know that there is no vitalization in some queens' eggs, when they first commence laying in the spring, and the bees have no regard for her, more than any other bee, and swarm out ?

Harvey Feathers, of Royalton, Wis., sends the following answers :

1. I do. I prefer from 40° to 42° for very populous colonies, and from 48° to 50° for less populous ones.

2. I believe that the dormant state that the bees enter into when wintering well, might as well be called hibernation.

3. I cannot winter a colony on from 3 to 6 pounds of stores, through one of our winters of 5½ months.

4. I do not believe that bees steal eggs.

5. I do not believe that queens are ever fertilized in the hive.

6. I am doubtful if they ever are re-fertilized.

7. I have had queens that never returned from their bridal trip.

8. I have.

9. I cannot tell.

10. I do not. I do not believe that is the cause of bees swarming out in the spring-time. I have had a colony swarm out and cluster on a bush ; while there, I cleaned the hive and combs real clean, and returned the bees. They staid and did well that season.

W. H. Stewart, of Kimball, Dak., answers some of the questions as follows :

1. I keep a record of the temperature in the bee-cellar, and I prefer that of 45°.

3. I have several times wintered full colonies of bees on from 3 to 4 pounds of stores, and I can do it any time if I wish to do so, and have them come out in the spring as good in every respect as though they had consumed more.

7. I have had several queens to die with the drone on their bridal trips.

S. W. Conrad, of Hanford, Calif., replies to a few of the questions in the following manner :

3. I have wintered a colony on from 5 to 7 pounds of honey.

4. I have seen my bees steal eggs and rear queens therefrom.

5. I have had queens fertilized that did not leave the hive to meet the drone.

7. I have seen dying queens attached to the drones after the bridal trip.

HORTICULTURE.

Are the Bees our Friends ?—The Vice-President's Address.

Read before the Iowa Horticultural Society
BY EUGENE SECOR.

In some localities, where grape-growing is the chief industry, and where, in certain seasons of the year, or in seasons peculiar in themselves, the honey-bees have given the growers more or less annoyance, some persons who have not studied the structure and habits of bees, and whose observations have not been as careful and thorough as the subject demands, have been ready to declare them a nuisance, and to banish them as an enemy to horticulture. Hence the question at the head of this essay is not only an interesting one, but important.

That they do, occasionally, annoy grape-growers, and perhaps others, is true. Those of us who keep dairy cows know that *they* sometimes break out of their proper enclosure, and give us trouble and annoyance in consequence ; yet we should hardly be willing to forego the luxuries which they furnish us, nor forget their general usefulness, on so slight a fault. If good qualities over-balance the bad, bees cannot be an unmixed evil.

On the theory that everything was created to serve some good purpose in the economy of nature, what was the purpose in the creation of the honey-bee ? Was it only that man's palate might be tickled with the delicious nectar which she finds hidden in the delicate chalices ? I think not. The honey is of only minor importance. I believe that it was the Divine purpose to minister to our necessities and enjoyments, but in a different and more important way. "Male and female created He them" was no less true of plants and flowers than of man.

In a good many of the species the sexual organs are not in the same flower. In others they are developed on distinct plants. In still others, although the flowers are hermaphrodite, the anthers and stigmas do not ripen at same time. Some means of carrying the pollen-dust from flower to flower, or from plant to plant, is necessary.

The wind is one of the fertilizing agencies, but the wind does not always blow during the brief opportune period when the pistils are ripe for receiving the life-giving dust ; and if rains are frequent, thus keeping the pollen-germs too damp to be easily carried by the favoring breeze, many plants would fail to mature seed and fruit, but for the insects that perform this important service.

Charles Darwin, that eminent English naturalist, whose careful experiments have added so much to our knowledge of plant and insect life, states in his work on "Cross and Self Fertilization," that out of 125 species that he covered with netting, excluding insects when in bloom, more than half were either entirely sterile, or produced less than half the number of seeds of the unprotected plants. I will cite one only of the many so treated by him, namely, white clover. I quote:

"Several plants were protected from insects, and the seeds from ten flower-heads of these plants, and from ten heads on other plants growing outside the net (which I saw visited by bees) were counted ; and the seeds from the latter plants were very nearly ten times as numerous as those from the protected plants. The experiment was repeated on the following year ; and 20 protected heads now yielded only a single aborted seed, whilst 30 heads on the plants out-side the net (which I saw visited by bees) yielded 2,290 seeds, as calculated by weighing all the seed and counting the number in a weight of 2 grains."

He says : "The most important of all the means by which pollen is carried from the anthers to the stigmas of the same flower, or from flower to flower, are insects belonging to the orders of Hymenoptera, Lepidoptera and Diptera.

The bees are the love-messengers which carry on the courtship and hasten the marriage of the blushing blossoms. They furnish the means of locomotion, and make it possible for distant and non-related flowers to meet in happy wedlock. Other insects do, indeed, play some part in this important work, but no other honey-and-pollen gathering insect increases with such rapidity in the spring, before the fruit-trees and small fruits blossom.

Bumble-bees are the chief fertilizers of red clover, because of the length of the corolla, but as only the queen lives over winter, and it takes her so long to rear her young, the first crop is ripe before her progeny are numerous enough to do much good ; hence only the second crop is depended upon for seed.

We have another eminent English authority (Cheshire) for the statement that gooseberries are absolutely dependent upon insects for fertilization. He states that the failure of this crop so often attributed to late frosts, is often due to non-fertilization. The same author also says in reference to apple blossoms, that the stigmas mature before the anthers, and that every blossom needs five independent fertilizations to make a perfect apple. He says that many of the wind-falls are traceable to imperfect fertilization. Out of 200 apples picked up at random after a wind-storm, all but eight were traceable to this defect. The reason nature has stored nectar in such abundance in the orchard fruit-blossoms, is to entice the bees to travel over them and thereby secure seeds to propagate the species.

But a still more important service rendered by them is that of cross-fertilization. Nature appears to abhor the marriage of near relatives. Many plants, although provided with both male and female organs in the same flower, are yet guarded from the baleful effects of in-breeding, by the anthers maturing at a different time from the stigmas, as before stated. Others are self-fertilizing, but at the same time are much more fertile if the pollen from a distant and non-related plant be applied. In other words, the pollen from a distant and non-related plant of the same species is much more prepotent than that from the same flower or same plant.

Darwin's pains-taking experiments with self and cross fertilization carried on for more than 17 years, and followed up with numerous plants to the tenth and twelfth generations, led him to these conclusions : First, that cross-fertilization is generally beneficial; second, that self-fertilization is generally injurious.

Now the especial province of pollen and nectar gathering insects is to insure the cross-fertilization which is so beneficial. Nature does not usually stake all her chances on a single peradventure. It is both increase and improvement that are desired. If entirely dependent upon insects, then without them there would be no seeds and no increase. If entirely dependent upon the wind, then during a calm the blossoms would die of sterility. I think you will find it true, however, of every plant or tree that secretes nectar in abundance, thus inviting the frequent visits of bees or other insects, that it is either sterile without insect aid, or else the crossing thereby insured is highly important.

Cross-fertilization is one of the most interesting as well as important studies in horticulture and floriculture. Without it, advance is impossible. Every apple would be like every other apple, and every flower as stereotyped as a printer's proof. Variety in color, in flavor, and in fragrance are largely, if not entirely, due to cross-breeding.

In an essay read before the Nurseryman's Convention last summer, our President Patten stated that about 75 per cent. (and he might have said 95) of all our improved fruits had come by chance. How much of this, think you, was due to the busy bee, in its quests after the pearly drop of nectar hidden for its finding ? "Her honey is but a fraction of the results of her labors. Man has had tiny helpers that he knew not of. While he, for *seasons*, has selected and hybridized, they, for *ages*, have, with their little powers, toiled along, perpetuating every movement of the world of flowers toward the beautiful."

The Bees and the Fruit-Grower.

Now as to bees injuring fruits : I said at the outset, that they occasionally annoyed the fruit-grower. Perhaps it would have been more proper to say "fruit-pickers." If grapes or other soft fruits get bruised in picking, or if they burst from over-ripeness or damp weather ; or if from any cause the skin is abraded so the bees can get at the soft, sweet pulp, they will tumble headlong over each other in their haste to get at the booty.

Those who have made a scientific study of their structure maintain that a bee's mandibles are not formed for biting or cutting like those of the hornet or wasp. They can only mold the wax that forms the comb, at a high temperature. If they could bite the skin of a grape to get its juice, why do they not bite open the corolla of the red clover blossom to get the abundant nectar which they can scent but cannot reach ? Here, again, Darwin's observations are valuable. He says that he has many, many times examined the blossoms of the red clover, and often seen hive-bees sucking the neetar from the sides of the corollas, near the base, from little holes bored through them ; but he does not arraign the bees for boring these holes. They only appropriate what other insects have made it possible for them to obtain. He says :

"As far as I have seen, it is always bumble-bees which first bite the holes, and they are well fitted for the work, by possessing powerful mandibles."

Perhaps it may not be generally known, that there is, in Illinois, an apicultural experiment station, established and supported by the government for the purpose of determining just such disputed questions as this.

In the Agricultural Report for 1885, may be found a very full account of the means used to determine the possible injury which bees can do to sound fruit. A large screen-house was built, and several colonies placed therein, subjected to all the conditions which might be supposed to increase their pillaging instincts,viz : drouth,warmth and starvation. After being kept confined in this condition for a few days, 23 varieties of grapes, besides peaches, pears and other soft fruits, were hung in the house or placed on shelves ; and while the bees visited them constantly, in search of food, not one was injured by them. Others were dipped in honey. Of course the latter was quickly appropriated, but not a skin was broken. Others were placed in the hives, and although polished like glass by constant travel, none were injured.

The limits of this essay will not allow me to pursue this part of the subject further. If any one wishes more testimony, he should read that candid report by a disinterested observer.

Forest City, Iowa.

BEE-KEEPING.

Experience with Bees in Poor Seasons.

Written for the American Bee Journal
BY GEO. W. MORRIS.

Bees have not had a flight for about ten days ; they have had several since winter began. I have not lost a single colony this winter, although the thermometer has indicated zero temperature two or three times. I have only 11 colonies now.

My report for 1886 and 1887 is as follows, as near as I can remember :

In May, 1886, I sold all my bees (16 colonies) for $100. Then I took charge of an apiary consisting of 100 colonies, for one-half of the honey and swarms produced, which amounted to 1,000 pounds of the former, and 34 swarms. This much for the work of May and June.

Right here I wish to give some facts in favor of strong colonies at the proper season. The strongest colony gathered in the last week of May, 90 pounds of extracted honey, all from locust bloom. The same colony in June gathered from white clover, 45

pounds, and cast 2 large swarms. This ended the honey season of 1886. If the other 99 colonies had gathered the same amount, the honey crop would have been 13,500 pounds, instead of 1,000 pounds.

If the flow of white clover honey had been as profuse as the locust flow, my crop would have been enormous. I never saw honey come in so fast from any other bloom, as it did from locust bloom in 1886, in proportion to the field-workers.

On account of the dry fall and hard winter, with a late spring and little attention, our increase of 34 colonies dwindled down to 22 by April 1, 1887. I moved my half home in a weak condition, but by close attention, I succeeded in getting them built up so that they gathered 250 pounds of clover honey last June, and in October 500 pounds from aster. The entire time required by me, including marketing, was only ten days.

To sum the bee-business up in its entirety, I am forced to conclude that it pays me as well, or better, than any other business that I can engage in, as regards the time and capital invested.

Cornishville, Ky., Jan. 21, 1888.

WISCONSIN.

Report of the State Convention at Madison, on Feb. 8.

Written for the American Bee Journal
BY F. WILCOX.

At the recent Wisconsin State Bee-Keepers' Convention, four essays were read, followed by short discussions. President C. A. Hatch read an address, recommending among other things the use of small kegs for extracted honey, in preference to tin or glass packages.

Mr. Putnam asked, "Would not small packages, like tumblers, be better?"

Mr. Bishop said that small packages increase the cost of the honey by the extra cost of the packages. Customers do not wish to buy tin or glass by the pound. Five or ten gallon cans, or kegs, are preferred by his trade. Kegs are preferred to cans, because the honey can be more easily gotten out by retailers. He found that many customers wished to get good honey in the cheapest form possible.

A. E. Cooley—Honey in glass is looked upon as a luxury.

C. A. Hatch—Honey in glass bears a higher rate of freight than in kegs.

A. V. Bishop—There is a prejudice in cities against what appears to be adulterated. Honey in small glass jars or tumblers is more likely to be so regarded.

Mr. Bishop read an essay on "The relations of producers to the commission merchants." He recommends shipping honey by freight, and thinks that the demand for extracted honey is increasing. Large barrels or kegs may be used for dark honey, and small ones for light honey. Large or full-sized starters are sometimes found in comb honey while eating it, and give rise to a fear of adulteration. It is better to use them as small as possible.

W. H. Putnam stated that in a bee-cellar under his shop, with the temperature about 42°, the moisture condensed on the ceiling, though ventilated by two pipes, and wished to know how it could be prevented.

A. V. Bishop and F. Wilcox said, by making the floor above of the same temperature as the cellar.

Mr. Hoxie—Let one ventilator extend to the floor of the cellar, and the other just through the ceiling.

Secretary F. Wilcox then read his essay as follows, entitled,

Notes from the Chicago Convention.

On the morning of Nov. 16, 1887, I went to Chicago to attend the annual meeting of the North American Bee-Keepers' Society. Having an hour or two to wait for the opening of the convention, I visited the honey houses near by. I was pleased with the quantity and fine quality of honey seen. One thing I saw which I did not expect, namely, the shipping-crates were badly bedaubed with a composition which looked like coal dust and kerosene. Now what is the use of buying clear lumber, and keeping it perfectly clean and white, if when shipped it arrives at its destination in such a filthy condition?

A full report of the essays and discussions makes quite a little pamphlet, which can be had at the office of the AMERICAN BEE JOURNAL, for 25 cents; and it is well worth more than its cost, to any who will read it.

The question of re-organizing the North American Bee-Keepers' Society so as to make it a representative body is being considered. The best place to discuss it is in these State and district conventions. The plan proposed, as I understand it, is that the inter-national association shall be composed of those who pay annual dues to the association, and such others as may be sent to represent State and district associations; these bodies to become affiliated by the annual payment of a sum of money. The association thus organized would consist of one grand body, with subordinate bodies in the different States. It may well be supposed that if the bee-keepers of the country were thus thoroughly organized, they would possess a power for doing good, or for the suppression of any evils that might bear unjustly on the pursuit.

At the present time, our associations are little else than mere annual gatherings of bee-keepers for the purpose of discussing the best methods of producing and marketing honey.

Desirable as it may be, there are some difficulties in the way of effecting such an organization. One is, the difficulty of organizing the local societies, and inducing them to send delegates. Another is, the payment of expenses of delegates from distant States. Whether such an organization is ever effected or not, it is well that bee-keepers should think of it, and be prepared to act as thought best at our next meeting.

Mr. Thos. G. Newman, of Chicago, was appointed a committee of one to try to secure a more reasonable rating of freight charges for extracted honey in barrels or kegs, as first-class freight is neither just nor reasonable.

Perhaps the most valuable work done at that convention was to propose two practical methods of collecting statistics of the honey crop, one or both of which may be carried into effect. One plan is to have Mr. A. I. Root employ three or four special reporters in each State, each one to report the crop for his portion of the State, which, in addition to the individual reports usually given, will give us some means of knowing whether the crop of the country is good, very good; poor, or very poor. Even though we should not know the exact number of pounds produced, we would know where there is an overplus, and where there is a shortage. Knowing this, we will better know what price to fix on our honey, and where to look for a market.

The second plan was for several members to write to the Commissioner of Agriculture, requesting him to collect and publish statistics of the honey crop in connection with the statistics of farm crops. In accordance with this plan I wrote and received the following reply:

SIR:—Your letter of Dec. 23, addressed to the Commissioner of Agriculture, has been referred to me for answer. We have now under consideration in this Bureau a plan for the gathering and publishing of information relative to bee-keeping, once or perhaps twice a year. In order to carry out this plan, it will be necessary to have a special corps of correspondents among those directly interested in the industry. It is desirable to have the names of one or two of the leading men in each county where apiculture is of any comparative importance. Can you assist me in obtaining such a list for your State? Very respectfully,

J. R. DODGE, *Statistician.*

From the above it seems that the Agricultural Bureau is willing to undertake the work of collecting statistics of the honey crop, which the bee-keepers of the country have so long

desired. All they ask is, that we shall co-operate with, and assist them, by furnishing the names of two or three intelligent bee-keepers in each county, who will interest themselves in trying to report accurately. I have prepared a list of two names from nearly every county in the State, but considerable correspondence and inquiry will be necessary before I can ascertain their willingness and fitness for the work. We have reason to be thankful to the Department for its friendly interest in behalf of bee-keeping.

In conclusion, I cannot better describe that convention than by reading a little poem, from page 755 of the AMERICAN BEE JOURNAL for 1887, written by Eugene Secor, of Iowa.

The convention then adjourned.

F. WILCOX, *Sec.*

PECULIAR SEASON.

Destroying the Basswood—Poultry and Bees.

Written for the American Bee Journal
BY H. M. CATES.

The past was one of the most peculiar seasons that I have known since I began keeping bees. The spring opened favorably, and every colony of my bees was strong in numbers until about the first or the middle of April, when there was about 15 days of the worst weather for bees that I have ever seen.

Every morning it would be fair and sunshiny, and the bees would roll out of the hives and go to the woods where soft maple and elm were in bloom. They would make a trip or two, loaded with pollen, when up would come a very cold north wind, and then great crowds of bees could be seen dropping in the grass between the woods and home, chilled to death. Such affairs soon reduced the colonies to nuclei.

White clover then opened, when the bees gathered enough to build up on a little, and by the time basswood bloomed, most of the colonies were strong enough to begin work in the sections. I finally obtained about 25 pounds of honey per colony, with no increase, except 2 colonies that I divided.

About the middle of last November I went with a horse and buggy, some 50 or 60 miles, to Williamsburg and Richmond; and as I drove along I kept a sharp lookout for bees, but I saw none except here and there a few in log or box hives, until I got to Williamsburg. There I saw the Reynolds brothers.

The next day I visited Mr. Reynold's apiary, and found him just packing his last hive for winter. He uses chaff hives, and is very successful with his way of wintering.

Cutting the Basswood Trees.

One thing that is going to injure the bee-business in eastern Indiana, is the "Excelsior" business. There are thousands of linden trees being cut here every spring for this business. One man sold over 2,000 fine linden trees last spring, that were in size from 6 inches to 2 feet in diameter. This was all cut within sight of my apiary, and it will leave us with no honey source except the clovers, white and Alsike; of the latter I have 3 acres that will bloom the coming season, and I shall sow 20 acres more of it in the spring.

Keeping Poultry with Bees.

Some bee-men advocate the keeping of poultry with bees. These same writers should have been in my apiary last May, and have seen a neighbor's large Pekin duck go flopping out from the bee-yard, with a dozen or more bees sticking around its eyes. At the same time the owner of the duck appeared, and was very angry at the bees. Had those, who advise keeping poultry with bees, seen the excitement in my bee-yard, they would think very differently on the subject.

Shideler, Ind.

COLUMBUS, O.

The Ohio Centennial Exposition Honey Exhibit.

Written for the American Bee Journal
BY DR. A. B. MASON.

The Ohio Centennial Exposition, to be held at Columbus, O., next September and October, offers about $320 in premiums in the Apiarian Department, and will put up a building for the apiarian exhibit. I am sorry to say that the exhibit will be confined to residents of Ohio. I am Superintendent of the Department, and the Board of Directors wish me to furnish a plan for the building. I will send a premium list as soon as published, to all intending exhibitors, who apply to me for it.

I am sure that our honey exhibits at the Fairs have helped to work up a market for our honey, and if properly conducted, they do much towards showing up the importance of our industry.

When, a few weeks ago, I told some of the Directors that the annual production of honey in this country was said to be about 100,000,000 pounds, and worth $15,000,000; and also about 100,000 pounds of beeswax, they "bunged out" their eyes at me as though I was "lying," but I gave them hot shot, and made them surrender.

I wish that our Ohio bee-keepers would "wake up" this season, and show the people at the Centennial the importance and beauty of our specialty, and make an exhibition of bees and honey worthy of our State.

It is intended to have the building so arranged that honey can be exhibited without the crates, and still be safe from bees, etc.

It was said that the honey exhibit at the Tri-State Fair at Toledo last fall, was the most attractive feature of the Fair; but the bee-keepers of Ohio *ought* to make the grandest exhibit at Columbus that was ever made in this country! Let us "pile up" the honey until the building is filled to its utmost capacity for a fine display.

Reduced freight and passenger rates will be made known in good time, and abundance of time will be had for arranging displays.

The last, or "Convention Number" of the AMERICAN BEE JOURNAL, is "worth its weight in gold." Every thing is boiled down," and the useless parts left out.

Auburndale, Ohio.

TEMPERATURE.

The Lowest Temperature at Which Bees Work.

Written for the American Bee Journal
BY S. D. HASKIN.

On page 67 is quoted from *Gleanings*, the temperature at which bees will fly. My observation demonstrates that they are safe if it is 45° in the shade or cloudy, and I have had one colony to work hard on buckwheat at that temperature. It was in this wise:

Keeping bees in a neighborhood in Pennsylvania where much buckwheat was raised, I detected the odor of buckwheat around one of my hives, and on examination found that they were storing that very article. Following their direction, I found that bloom plenty, and bees working on it pretty freely. The previous year the same field had buckwheat on it, and sowed with oats in the spring, the shelled or wasted grain came up with the oats.

But here is the peculiarity, and it shows why and how it is that sometimes we find so much difference in our honey, and in the same yard at this time:

I had about 50 colonies, and none of the rest of my bees paid any attention to buckwheat, but worked on willows, fruit and berry bloom until white clover came. There was a great deal of buckwheat raised that year, and

the 49 colonies and their increase did not store any buckwheat honey; but the fiftieth colony and its increase (one swarm) stored but very little except the buckwheat honey. But below is the test:

When it was getting quite late and cool in the fall, but no frost yet, one day I noticed my "buckwheat bees" were very busy, and the others were flying only for a little water. I followed the course of the working bees, and found that a neighbor had harvested some early buckwheat, and sowed the field with winter rye. The shelled buckwheat had sprung up, and was in bloom. It grew cooler towards night, and at 45° the bees worked pretty briskly, but at 44° they stopped entirely.

This test was quite satisfactory and interesting to me, though I had never written it for publication. It illustrates the peculiarity of bees' preference for the different honey sources and flowers. It was a good season for white clover and basswood honey.

On Feb. I the mercury rose to 44° in the shade, and some of my bees flew a little. It was the first since last November. The snow is 2 feet deep. It is a little cooler to-day, and is raining a little.

Waterville, Minn., Feb. 3, 1888.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Apr. 11.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 8.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Bees Wintering Well.—L. Hubbard, Waldron, Mich., on Feb. 7, 1888, says:

Bees appear to be wintering nicely. I have 100 colonies in the cellar, and nearly as many packed in chaff. There are no signs of diarrhea.

Glandular System of the Bees.—J. A. Proctor, M. D., Union City, Ind., writes as follows:

Prof. A. J. Cook, in discussing the glandular system of the bee, says that "one pair of glands furnishes the saliva; another the food for the larvæ. Drones do not have *this* gland, and it is only rudimentary in the queen, which shows that she once nursed the larvæ, as the queen bumble-bee now does in the spring." Will Prof. Cook please state what gland he alludes to by "this gland?" What shows that "they once nursed the larvæ, as the queen bumble-bee now does?" I ask for this proof, that the bumble-bee has not changed, but still feeds its larvæ; and why the honey-bee has changed.

The Professor says, on page 58, that "richer food, through long ages, developed larger ovaries, and a correspondingly greater fecundity." How is it known that the queen gets any richer food than she did ages ago? Or that their ovaries are more developed now then they were ages ago? I see no change in the queen bumble-bee, and why in the honey-bee?

The Professor says, "In the same way snakes have lost their legs." (I suppose by being too lazy to use them.) "Zoologists find rudimentary legs now, and believe such legs indicate legs once useful." I ask for the proof, as it matters not what any one "thinks" about it.

The Bees are all Right.—Andrew Craig, Empire, Dak., on Feb. 6, 1888, says:

I have 3 colonies packed in straw on the summer stands. They are all right so far. It has been 34° below zero here this winter, but it ranges now from 20° to 40° above zero.

Standard Langstroth Frames.—L. J. Stone, Littleton Common, Mass., asks the following questions:

1. How thick should the top-bars to the standard Langstroth frames be? 2. How much space should there be between the top of the brood-frames and the bottom of the section-cases? 3. Will bees build up as fast in standard Langstroth frames as in deeper frames? I mean in early spring.

[1. Make them V-shaped, and ⅞ of an inch deep.

2. Three-eighths of an inch.

3. Yes.—ED.]

Good Locality for Bees.—T. M. Edwards, Kerrville, Tenn., on Feb. 8, 1888, writes:

My bees are wintering finely. I have 120 good colonies. We have a fine locality for bees and honey. I am trying to get my neighbors to use frame hives, but I succeed slowly. The AMERIAN BEE JOURNAL is a favorite in my family.

Swarms Alighting High, etc.—George Hodges, Belmont, N. Y., on Feb. 2, 1888, writes:

I now have 6 colonies of bees that are covered with snow. I have kept bees for 10 years in America. I notice that basswood or linden, as it is called in this country, is called "lime" in England, and sometimes it is called "white wood." The bees used to swarm up in the trees very high sometimes, so that I had to use a 30-foot ladder to get to them. In England I very seldom had a swarm to leave me; but here in one summer 3 swarms absconded for me.

Shipping Bees by Express.—S. J. Youngman, Cato, Mich., on Feb., 9, 1888, writes:

Being greatly interested in bee-culture, I am willing to give my views and experience to promote the same. I have always thought that bees might be sent to the North from parts of the South in early spring, and then be built up in time for the honey season; white and Alsike clover, with the basswood bloom, being the principal sources of honey supply, and commencing in early June and and lasting until the middle of July. I once was interested in a large shipment of bees from Louisiana, which consisted of 150 colonies, sent as freight, and being about 10 days on the road. The transaction was not a success, as the bees did not have stores enough to last them for so long a journey, and the transportation charges being very high. Some of them, however, were in good condition after the long journey. I have received bees also by the pound, in cages, from the South, which were generally in bad condition on arrival. I have arrived at the conclusion that the only safe way to transport bees long distances is by express, several small colonies being put in one package in a light, strong, shipping-crate, and not less than 25 to 50 colonies sent at a time, each nucleus to consist of say 1 to 2 pounds of bees, with a laying queen and one frame of sealed brood.

What Ailed the Bees?—Jas. F. Johnson, of Missouri, writes as follows:

On page 11, Mr. A. Pinkerton, speaks of great mortality among his bees. I have known bees to die from the same cause in this State, and in California. I knew of an apiary of 200 colonies situated on Santa Barbara island, 25 miles from land, in the Pacific Ocean. They came out of their hives and died, and the ground was covered with them. I kept bees on the main land three miles from the ocean, and some of my bees were afflicted in the same way; these bees were not confined, as the weather was quite warm. I wish some one would tell us if this is a disease, and if it is caused by food, or by the state of the atmosphere. By Mr. Pinkerton's article, we find that bees are affected, whether confined or not.

Fastening Foundation in Brood Frames.—D. R. Rosebrough, Casey, Ills., writes as follows:

Lately there has been a great deal written about fastening starters of foundation in sections, and each bee-keeper has a method of his own which he thinks is *the best*. We all seem satisfied about the way to fasten starters in sections, but what troubles me considerably is, to fasten foundation in brood-frames. The foundation always sags for me when I put in full sheets, and hive a swarm upon them; but if given to a colony made by division, it works all right. It seems to me that if a narrow piece of muslin or ribbon could be fastened to the brood-frames, and then the foundation fastened to that, it would be an improvement. I would like to have some one try this plan, or at least suggest something better than beeswax or rosin to fasten foundation.

Bees Wintered in the Cellar.—Wm. Cleary, Algona, Iowa, on Feb. 14, 1888, writes:

I have 33 colonies of bees. I commenced last season with 17 colonies, and I was unfortunate in spreading the brood. I obtained 350 pounds of honey, and fed about 100 pounds of sugar in the fall. My bees are very quiet in the cellar, the temperature ranging from 40° to 48°. I examined them a few days ago, and they are doing well. My cellar is very dry, and is under the sitting-room and bed-room, and divided from the rest of the cellar by a board partition. We have no frost in any part of it. It has no ventilation except what comes from the kitchen as we pass up and down after vegetables or coal.

A part of the hives are the Gallup style, with pieces of sacking or carpet on top of

the frames, with the tops and covers on, and a stick across the frames for a passage. The balance of my colonies are in 8-frame Langstroth hives, 1½-story high, with a honey-board having a slat at the end with wire-screen over it, and with the caps on. That is all the ventilation they have, except what they get from the entrance.

I notice that the answers to nearly every question differ, which shows to me that we all have more to learn. How can I get straight, even-filled sections without separators?

[To use narrow sections will aid very much, but there is no sure method.—ED.]

Old Foundation in Sections.—Chas. Solveson, Nashotah, Wis., on Feb. 6, 1888, says:

I have between 3,000 or 4,000 sections that were filled with foundation in April, 1887, and as the last season was a failure, they were not used. Would it be advisable to submit them to a high temperature in order to soften the foundation, before giving them to the bees? Or, what should I do with them?

[Yes; that might do, or to steam them would be preferable. If you have any full sheets of foundation left, dip them in warm water before giving them to the bees. That will soften the wax, and freshen it.—ED.]

Feeding with Unfinished Sections.—Henry Hohnadel, Fair Haven, Ills., on Feb. 6, 1888, writes:

Bee-keeping was very unprofitable last season; we had no surplus honey. I commenced with 46 colonies, and increased them to 56, by dividing them. I had no swarms. I commenced feeding in June with 500 unfinished sections of the previous season, to keep the bees from starving, as there was no honey to be had from either white clover or basswood. On Sept. 1 I bought about 500 pounds of sugar, and fed the bees syrup, on the Heddon plan. I then prepared them for winter quarters, and stored them away about Nov. 15; they appeared rather light when moved, and have not examined them since I put them into the bee-house, but I have always been very successful in wintering.

Very Cold Weather.—Ira Barber, De Kalb Junction, N. Y., on Feb. 10, 1888, says:

Another cold wave is hovering over northern New York. This morning the mercury was down to 30° below zero; but in my bee-cellar the temperature was 46° above zero. On examining the bees, they showed signs of being in too low a temperature for comfort and health, for every top-board that I took off was wet on the under side, and the cloths were in the same condition. We are having an unusually cold winter here, with not a heavy snow fall, but with roads badly drifted, and every prospect of cold weather for some time to come.

Albino Bees for Work, etc.—J. Moser, Festina, Iowa, on Feb. 9, 1888, writes:

This has been a very poor season for honey in this locality, but few bee-keepers having secured any honey at all. There was an extraordinary crop of basswood, and colonies which were in just the right condition gathered honey rapidly for a few days, when the honey-flow ceased almost entirely. Only the pure Albinos worked in the sections, where the Italians did not touch them at all, and only secured a little in the brood-frames. The pure Albino bees were far ahead of the other races the past season.

My apiary consists of 90 colonies, 65 colonies being pure Albinos, and the others Italians and Syrians. The Albino bees are the handsomest that I have ever seen. They gave the best satisfaction the last four years, so that I feel like dropping all other varieties, and keeping them exclusively. My apiary is located near a public road, a row of hives are standing along side of the fence, and the bees have to pass over the road, but I never had any complaint that they attacked man or team.

In the season of 1886 my crop was 4,500 pounds of comb honey in one-pound sections, and 2,200 pounds of extracted honey from 45 colonies, spring count. In 1887 I took about 800 pounds of comb, and 1,200 pounds of extracted honey, from 80 colonies. I am wintering 70 colonies in the cellar, which are very quiet; and 20 colonies in chaff hives, that are buried in the snow.

Comb Foundation Fastener.—Mr. Jacob Alpaugh, of Saint Thomas, remarks as follows about one that he has invented:

I notice on page 790, that Mr. Eden, in speaking about putting foundation in sections, says: "It is to be hoped that some of the many thousands of bee-keepers will discover a plan that will give general satisfaction." I have discovered the very method he calls for. I have used it for two seasons; and some of the largest comb honey producers are now using it. With it you need no melted mixture on hand, no warmed sections, nor a place having a temperature of 90° to work in, but just take the sections and comb foundation out of the box and go to work. It can be used in any out-door building, no matter what the temperature is.

I mail a sample of the machines' work to the editor, and ask him to state what he thinks of it. I can put on at the rate of ten per minute, which amounts to 6,000 per day. Is that not fast enough?

[The work is neatly and strongly done. Mr. T. W. Cowan, editor of the *British Bee Journal*, says he saw it in operation at the Toronto Fair, and he speaks very highly of it. Would it not be well to put them upon the market?—ED.]

Hybrid Bees and the Italians United.—Daniel Whitmer, South Bend, Ind., on Feb. 7, 1888, says:

On Nov. 20, 1886, I placed 207 colonies of bees in the cellar in good condition, and left 33 colonies on the summer stands in the same condition. In the second week of April, 1887, I took 206 colonies out of the cellar alive, but about one-half dozen weak colonies. Of those on the summer stands I lost about 8 colonies, making about 14 colonies in all, including those lost by spring dwindling. I sold some, and united my hybrid colonies with pure Italians, in order to get rid of them, and at the same time making my colonies all very strong for the early flow from white clover. Of course some would object to this plan, but distributing bees and brood I find to be good.

I commenced the season of 1887 with 175 colonies of Italian bees, increased them to 250 colonies, and secured 5,000 pounds of surplus honey, 100 pounds of which was extracted. The past was a very poor season for honey in this locality, in consequence of the drouth. I had about one-half of a crop, and others were not so successful. On Nov. 23, 1887, I placed 200 colonies in the cellar in good condition, except 2, and the rest on summer stands. They are all doing well.

Oil-Stove in the Bee-Cellar.—F. A. Lockhart, Lake George, N. Y., on Feb. 1, 1888, says:

I commenced the season of 1887 with 9 colonies of bees, increased them to 25 colonies, and took about 500 pounds of comb honey in one-pound sections. There was about one-third of a honey crop in this section of the country. Some bee-keepers near me secured no surplus at all. I bought 10 colonies in box-hives, which I intend to transfer to movable-frame hives in the spring. On Nov. 20, I put my bees in the cellar where the temperature ranges from 40° to 46°. They seem bo be wintering very well. There are but a few dead bees on the cellar bottom. I keep an oil-stove burning in the cellar when it is very cold weather. A pipe connects the oil-stove with the kitchen stove above, which carries all gas and foul air from the cellar. It is very cold here; 48° below zero yesterday morning.

The AMERICAN BEE JOURNAL comes every week, bright and clean in its "new dress." I would not do without it for twice its cost.

A Home-Made Swarm-Catcher.—A. H. Dunlap, of Aral, Kans., writes:

Take a fiddle, new or old, and if it is worth nothing to excite the "light fantastic toe" it will do for the bees. Leave off the lower string, change the bridge so that the top will be hollow, or concave instead of round. Now construct a small, light frame with a wheel, and crank to turn the wheel, and fasten this frame on the top of the fiddle, so that the wheel will be above, and a little forward of the bridge. String up the fiddle, and pass a small silk cord (well rubbed with rosin) over the wheel and under the strings of the fiddle. Tune up the strings so that their combined tone will resemble the bees' tone. When they commence to cluster, take your stand close to some tree, bush, or anything upon which you would like to have the bees alight. Begin to turn the crank, turn slowly, turn on, keep turning, and never ask again, "Can bees hear?"

That "Canadian Locomotive."—Rev. W. F. Clarke, of St. Thomas, Ont., gives a fresh clang to that locomotive bell:

For the information of "Bro." Solveson and others who appear to be getting anxious, permit me to say that "latest advices" about the approaching engine were published in the *Canadian Bee Journal* of Jan. 25, 1888. Replying to Dr. W. S. Adams' enquiries (page 896), the editor says:

> We believe that we will be able to guide you "out of the woods," as you put it, Doctor, just as soon as our engravers get their work done. We have not been so hurried as we might have been. In a week or two, however, bee-keepers will all be "waking up" after the "hibernation" for the winter, and will be looking out for their requirements for next season. By that time we will have our engravings ready, and with them will be given a full and explicit description of our invention, which we trust will meet with a fair amount of approval. We want all the criticism going too, so if it don't "strike" you as "just the thing," we want you to speak.

Let me add, it is not I who am keeping the fraternity "in suspense." I was but the prophet who predicted the coming event; the fulfillment is in other hands. But, evidently,

> "There's a good time coming, boys,
> Wait a little longer."

[The ringing of the locomotive bell indicates the approach of the train immediately—unless it is a false alarm. The long delay in the above case, proves that the announcement was far too extravagant, and unless the invention materializes very soon, will prove it "a false alarm."—ED.]

Clipping a Queen's Wing.—E. Jarvis, Fair Grove, Mich., on Feb. 3, 1888, asks the following questions :

1. Does a queen's wing grow out again after being clipped ? 2. Does the clipped queen ever go out with a swarm ? 3. If they get together, is it always on the ground, or down where she can crawl ? 4. Does the swarm ever go out of sight of the hive ? 5. Will the bees swarm before rearing a new queen ?

[1. No.

2. She attempts to, but the loss of her wing prevents her flying with the bees.

3. Yes.

4. Yes. When they find that the queen is not with them, they usually return ; but sometimes they have another queen, or unite with another swarm.

5. They will attempt it and fail, unless they unite with another swarm, or follow another young queen on her bridal trip.—ED.]

Bees Flying—Favorable Winter.—D. F. Park, Athens, Pa., on Feb. 14, 1888, says :

To-day the bees have had their first flight since Dec. 4, 1887. I have 85 colonies on the summer stands, and all were out but one, which had succumbed. I had introduced a "dollar queen" last season, and she proved worthless, not rearing bees enough to make a decent cluster. The winter has been favorable, the mercury having gone below zero but three times. Five, 10 and 16 degrees below zero has been the coldest, with very little snow.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00...	
and Gleanings in Bee-Culture.....	2 00....	1 75
Bee-Keepers' Magazine.....	1 50....	1 40
Bee-Keepers' Guide.....	1 50....	1 40
Bee-Keepers' Review.....	1 50....	1 40
The Apiculturist	2 00....	1 80
Canadian Bee Journal.....	2 00....	1 80
Canadian Honey Producer...	1 40....	1 30
The 8 above-named papers..	5 90....	5 00
and Cook's Manual.....	2 25....	2 00
Bees and Honey (Newman)...	2 00....	1 75
Binder for Am. Bee Journal..	1 60....	1 50
Dzierzon's Bee-Book (cloth)...	3 00....	2 00
Root's A B C of Bee-Culture..	2 25....	2 10
Farmer's Account Book.....	4 00....	2 20
Western World Guide	1 50....	1 30
Heddon's book, "Success,"..	1 50..	1 40
A Year Among the Bees.....	1 75....	1 50
Convention Hand-Book.....	1 50....	1 30
Weekly Inter-Ocean.....	2 00....	1 75
Iowa Homestead	2 00....	1 90
How to Propagate Fruit.....	1 50....	1 25
History of National Society..	1 50....	1 25

CONVENTION NOTICES.

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited.
W. H. BEACH, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec*

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents ; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices : $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed :* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel ; $1.75 per peck: 20 cents per lb.—by express or freight.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered very soon. We are promised an early spring, and a good honey crop.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen ; if sent by mail, add 1 cent each for postage.

We Supply Chapman Honey-Plant **SEED** at the following prices : One ounce, 40 cents ; 4 ounces, $1 ; ¼ pound, $1.75 ; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40 ; or with "Gleanings in Bee-Culture" for $1.75 ; or with the "Apiculturist" for $1.80 ; or the "Canadian Honey-Producer" for $1.30 ; with the Bee-Keepers' Review, $1.40 ; or all six for $4.00,

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each ; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows :

	Size A.	Size B.	Size C.
250 Labels.....	$1.50	$2.00	$2.25
500 Labels.....	2 00	3.00	3.50
1,000 Labels.....	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

A Modern Bee-Farm, and its Economic Management ; showing how bees may be cultivated as a means of livelihood ; as a health-giving pursuit ; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Feb. 29, 1888. No. 9.

EDITORIAL BUZZINGS.

Bee-Men are in trouble! O, hear them call
On the "Union"—inviting one and all,
To join them, and nobly "the fight" endure.
For "pluck" shall win, and the outcome is sure!

Let us face the issue, hnt never shirk,
And our duty do in this grand good work.
The battle fight bravely—our rights to gain,
Help the weak brothers, their cause to maintain.

It is a Pleasure to announce that Mr. W. Z. Hutchinson is now recovering from his severe illness. Mrs. H. writes us that she expects soon to have him "up" again. Their daughter is also (we are glad to say) getting well—thanks to the faithful exertions and nursing of the "angel of the household," whom friend H. has often mentioned to us with the most endearing words. Oh! what is there in this world to compare with a faithful wife and fond mother? By her a "heaven" can be made on earth.

The Rev. C. F. G. Jenyns, rector of Knebworth, Herts, England, died suddenly on Jan. 26, and was buried on Feb. 1, 1888. Mr. Jenyns was a very energetic and enthusiastic apiarist, and a member of the British Bee-Keepers' Association. He was the author of a book about "Bees for the Young," which was noticed in these columns on pages 659 and 771. He will be missed in the much-depleted ranks of modern progressive apiarists.

Trees. — Geo. Pinney, of Evergreen, Door Co., Wis., is out with a catalogue of Evergreens and Timber Trees, and Seeds. He offers to send a copy to any person asking for it.

Scatter the Leaflets.—Look at the list (with prices) on the second page of this paper.

Securing the Statistics of Bee-Keeping.—That reliable statistics of the products of the apiary would be both interesting and valuable is quite beyond question; but the great problem which confronts the apicultural fraternity of to-day is, the *best method* to be employed in securing reports of the annual production of honey and beeswax in the United States.

The plan which we deem to be both feasible and easily introduced, is briefly outlined as follows:

Have "bees and their products" included in the blanks prepared for the use of the assessor in each township of each county in the United States. At the head of one column place the words, "number of colonies;" another with, "pounds of comb honey;" one with "pounds of extracted honey;" and still another with, "pounds of beeswax."

Then, when the assessor visits a farmer next May or June, and inquires as to the number of horses, cows and sheep owned, how easy it would be to ask at the same time these questions: How many colonies of bees have you? And if the number is stated, ask, How many pounds of comb honey produced in 1887? How many pounds of extracted honey? How many pounds of beeswax? To ask these questions and record their answers would be the work of but five minutes (and perhaps less) at each farm; and if all understood that such questions would be asked by the assessor, those who keep bees would have the answers prepared in advance, especially after the first year's experience with this method of obtaining statistics of bees, honey and wax.

There is no good reason why the statistics of the great industry of bee-keeping should not be as complete and reliable as that of the agricultural interests of this country; and that they may be so, is clearly proven by the correctness attained in the statistics of all other departments of rural pursuits.

We have already obtained the attention and approval of the United States Statistician, as shown on page 132, where he expresses great willingness, on the part of the Government, to aid in every way possible in securing to bee-keepers what they so much desire in the line of ascertaining as nearly as possible the exact number of colonies of bees kept in the United States, and the number of pounds of comb honey, extracted honey, and of beeswax annually produced.

In 1882 the Illinois Board of Agriculture inaugurated a plan similar to the one outlined above, and we published the table on page 51 of the BEE JOURNAL for Jan. 24, 1883. Some similar plans have been adopted in other States, but what we need is a uniform method for every county of the United States, such as can be had, if it is taken hold of by the United States Statistician. We very much doubt the feasibility of the plan to obtain reports from two correspondents in every county, as suggested on page 132. The only reliable method is through the assessors. Of this, we feel positive, and commend it to the Statistician.

Important Points in Breeding Bees are often lost sight of. Among these are the careful selection of mothers, and keeping a record of the queens in an apiary register. Every bee-keeper who would be considered an apiarist should keep a Register. We approve in the main the points presented in the following written for the *American Agriculturist* by Mr. A. H. Duff:

Queens for breeding should be selected with much care. This is overlooked by too many breeders, and the result is inferior stock which will not produce as well as that of better selections. Some breed mainly for color, others for the best workers regardless of color. Some think that an imported queen is the only one fit to breed from, while others are willing to use any queen that produces bees showing the three yellow bands characteristic of the Italian. This is a mistake. While a selected imported queen is doubtless the best to breed from, we have found by experience that not all imported queens are good breeders. We would not by any means discourage breeding from imported queens, but we are certain that by careful selection from home-bred stock as good results have been obtained as from any imported. There is no certainty in selecting a queen by her looks for breeding purposes. An inferior-looking queen may prove to be the best breeder. Neither can we tell to a certainty the superiority of a queen by testing her a single season. Colonies even with not the best of queens often have such advantage in condition as to come out ahead. We have often been greatly disappointed by queens apparently proving superior the first season, and afterwards turning out very poorly.

A yearly record should be kept of such queens as are in view for breeders, and, by close observations, in a few years a strain may be found having the desired qualities. It is not necessary to wholly disregard color in order to get working qualities. Those two points can be readily combined. The three golden bands encircling the body of the Italian bee should never be lost sight of.

The Elms in Bloom.—Mr. David Grossman, of Terrell, Texas, on Feb. 17, 1888, sent us some bloom of the elms on which his bees had been at work since Jan. 31, and had carried into their hives thousands of loads of pollen. It will be our turn to have bloom soon, here in the North. Everything seems to promise an early spring.

Clergymen and Bees.—An exchange, in speaking of the fostering care of the art of bee-keeping by clergymen, says:

The bee-keepers of this country are under great obligations to the clergy for the prosperity of their peculiar industry. To Rev. L. L. Langstroth belongs the credit of first inventing and introducing to American bee-keepers, and to the world, the movable-comb frame, which has well-nigh revolutionized apiarian pursuits, and done as much for the production of honey as the cotton-gin has for the great staple of the South.

By its use a colony of bees is almost wholly under the control of the bee-master. One interesting illustration of its many uses is found in the lessened production of drones, which are non-producers and yet great consumers. The skilled apiarist now cuts out from the movable frames all, or nearly all, of the drone comb, and substitutes workers' comb instead, and so rears a race of industrious workers in place of a hungry, worthless horde of drones.

GLEANS OF NEWS.

Prefers Columbus. — Miss Dema Bennett, of Bedford, O., on Feb. 21, 1888, writes:

In regard to the place for holding the next meeting of the North American Bee-Keepers' Society I would like to express my preference for Columbus, O. I understand that the executive committee has the matter in charge. I think that under ordinary circumstances Cincinnati would be the better place, but this year there are quite a good many advantages in favor of Columbus, and I think that the attendance would be larger at the latter place.

Dr. Mason, the President, writes us on this subject as follows:

Auburndale, Toledo, O., Feb. 21, 1888.

The executive committee of the North American Bee-Keepers' Society is considering the matter of changing the place of its next meeting, but owing to Mr. Hutchinson's sickness, have not arrived at a conclusion, and will inform the bee-periodicals as soon as it does. There is no special need of haste, but the matter will be arranged as soon as possible; until then, it may as well, perhaps, be better to not vote on the matter.

Hints for March.—Mr. W. B. Treadwell writes the following to the *American Agriculturist*, as seasonable hints for beginners:

Examine every hive as far as practical, and should any be found in want of stores, these should be replaced at once, either by laying bars of cream candy over the tops of the frames, or by placing a feeder of hot liquid feed over the frames under the cushion, so that the bees can reach it without leaving the cluster. Do not feed in the morning, as this will be apt to induce robbing, and when fed during the day the bees become restless, are tempted to fly out, and thus become chilled and die.

When feeding for stimulation, we would advise the use of a good entrance feeder, which, when placed at the entrance the latter part of this month, should not be removed until apple blossom time. Pour about a gill of hot feed, made of two parts water and one part of honey or sugar, into the feeder every evening.

We cannot too strongly insist on the importance of regular daily feeding, when once begun. Confine each colony to only as many combs as the bees can conveniently cover, giving more combs as required. Be cautious, and not expand more rapidly than the increasing bees will warrant, as they may not be able to keep the brood warm.

Ventilation from above should now be stopped, by laying enameled cloth smooth side down over the frames. Stimulative feeding serves the same purpose, even if the brood-nest is full of sealed honey. This may, however, be uncapped. Guard against robbing by leaving no combs or sweets exposed, and contracting the entrances.

Should any colony be found queenless, either introduce a new queen or unite with some weak colony. In the North rye meal should be fed as a substitute for pollen.

Alsike Clover.—M. M. Baldridge, of St. Charles, Ills., wishes to make the following correction. The error was an oversight of the printer. He says:

Four pounds of Alsike clover seed is plenty for one acre when sowed alone. The types on page 105 make me say 40 pounds, which is just 36 pounds too much.

Statistics of the Honey Crop.—At the Chicago Convention Dr. Mason, Prof. Cook, and the Editor of the AMERICAN BEE JOURNAL were appointed a committee to correspond with the Department of Agriculture relative to securing reliable statistics concerning honey and beeswax production, the number of colonies of bees, etc., in the United States. Dr. Mason has received the following from the United States Statistician, which will be read with interest:

U. S. DEPARTMENT OF AGRICULTURE,
WASHINGTON, D. C., Feb. 21, 1888.

Dr. A. B. Mason, President of the North American Bee-Keepers' Society, Auburndale, Toledo, Ohio.

SIR: Your favor of the 15th inst., addressed to the Commissioner of Agriculture, and by him referred to me, is received.

After correspondence with Mr. Eugene Secor, of the Iowa Horticultural Society, Mr. Geo. E. Hilton, President of the Michigan Bee-Keepers' Association, Mr. Franklin Wilcox, Secretary of the Wisconsin Bee-Keepers' Society, and other prominent apiculturists, I have decided to make an effort to gather statistics relative to bee-keeping, to be published in our regular crop report at least once a year, provided those engaged in the industry take sufficient interest in the matter to furnish us with the necessary data. In the first place it will be necessary to have a special corps of correspondents made up entirely from those actually engaged in bee-keeping. To secure such a list of reliable men, we should have to depend upon the officers of various Bee-Keepers' Associations. Our regular correspondents who furnish us with monthly crop reports are made up in the main of ordinary farmers, and but few would be able to give reliable information relative to the present condition of apiculture; therefore, what we desire, and must have if a reliable report is to be made, is a list of intelligent bee-keepers one in every county where the industry is of any comparative importance. So far we have been able to secure such a list from the State of Iowa only, with the promise of a list from Wisconsin. Can you, from among the members of your society, furnish me such a corps, or give me the names of prominent men in each State who could do so?

I would also be under obligations if you and the fellow members of your committee would kindly give me the points, which, in your opinion, such an investigation should cover, and the queries which you would consider it advisable to put.

Trusting that you will give me all the assistance in your power in order that a full and correct report on the progress of this growing industry may be made, I am,

Very respectfully,
J. R. DODGE, *Statistician.*

This commmittee, as representatives of the "North American Bee-Keepers' Society," are now corresponding with one another for the purpose of formulating a plan to be followed by the different societies, in order to comply with the above request of the United States Statistician. They will endeavor to give him "the points," the "queries," etc., but many difficulties present themselves.

Now, we request any one who may have suggestions to offer, to send such to Dr. A. B. Mason, Auburndale, Toledo, O., *at once*, to aid the committee to finish the work in the most complete and perfect manner. Give the committee your BEST thoughts and most mature plan of operation—and do it NOW.

California Honey Crop in 1887.—Messrs. Schacht & Lemcke, of San Franciso, in their third annual market review of the honey and beeswax business of California, remark as follows:

San Diego county, which in former seasons has been the most productive county for honey, yielded very little, and only several carloads of the crop of 1887 have been shipped from the northern part of that county; the honey shipped from the city of San Diego having been kept for better prices.

In some parts of Los Angeles county, which formerly produced several hundred tons of honey, apiarists did not extract at all last year; while in others, not fifty miles distant, they extracted 400 cases of honey from 400 colonies of bees.

San Bernardino county had probably the best honey crop last season, for nearly every apiarist had some honey to sell. In the counties north of Los Angeles, comb honey has been produced. Part of it was very nice, in one-pound sections, and was sold at from 12 to 16 cents, according to quality; the rest of it was very poor, and should have been extracted.

It is very difficult to estimate the amount of honey produced in California, but we may say that during 1887 not over 500 tons of extracted honey and 100 tons of comb honey was produced, against 2,500 tons of both extracted and comb honey in 1886, 700 tons in 1885, and 4,500 tons in 1884.

Years may Come and Years May Go, but it will take a thousand of them to bring us to another year having as many 8's as we use to indic-8 the present time. Full many a lesson does this year inculc-8.

We may cogit-8 about our bees—dial-8 concerning their winter repose—and specul-8 with "Old Probs" on the unseasonable weather, which tends to invalid-8 what we calcul-8 to do.

We must not, however, hesit-8 to extric-8 them from untimely f-8, so that they may gradu-8 among "the flowers that bloom in the spring." To emancip-8 them from cruel f-8, will allow them to reciproc-8 with honied treasures in wondrous store, and let us anticip-8 our pleasures.

If we particip-8 in their labors we should never forget to supply their wants—else they may capitul-8, leaving us no bees to manipul-8, because we left them to f-8 until too l-8. That we deprec-8, at any r-8!

New Catalogues for 1888 are on our desk, from the following persons:

Thos. Jackson, Portland, Maine—10 pages—Forest City Nurseries.

F. N. Lang, St. Paul, Minn.—28 pages—Field, Flower and Vegetable Seeds.

F. E. Fassett & Bro., Ashtabula, O.—8 pages—Flower Plants.

D. C. Buck, Dundee, Mich.—4 pages—Queens and Bees.

A. I. Root, Medina, O.—40 pages—Bee-Keepers' Supplies.

A. Wortman, Seafield, Ind.—18 pages—Bee-Supplies and Poultry.

Jos. E. Shaver, Friedens, Va.—24 pages—Apiarian Supplies.

E. S. Armstrong, Jerseyville, Ills.—32 pages—Hives and Supplies.

INFORMATION.

Marks of Purity.—Hugh L. Lynn, Glenville, Ky., on Feb. 16, 1888, asks the following questions :

1. Is there any certain way of knowing Italians from hybrids ? 2. Is not disposition a better proof of purity than marks ? 3. When I first got an Italian queen she was a curiosity in our neighborhood, there being no other near it. Her daughter, reared that fall, mated with a black drone, there being no others near. Her workers were as large and as finely marked as any one could ask for. I think any man seeing them dead would have pronounced them Italians. But if he had handled them he would have called them hybrids.

1. Yes ; 3 yellow bands in all the progeny of any Italian queen. If she has been impurely mated, then the yellow bands of the workers will vary in number.

2. No ; "disposition" is often the result of gentle handling and management—but is not a *sure* indication of purity of blood.

3. While some of such bybrids may be well marked and fine looking, others would be inferior both in bands, manners, and appearance.

Swarms with Two Queens, etc.—Mr. Locke Ferree, of Milroy, Ind., makes an inquiry coucerning the swarms which issue having dual queens. He says :

The last season was hard on bees here. My bees had a flight two days ago, being the first for nearly four weeks. One of the colonies I think has the diarrhea. What shall I do for them ? When two or more queens come out with a swarm, what will the bees do with the surplus queens ?

If the bees have the diarrhea, a flight will help them very much. If more than one queen issues with a swarm, it is an indication that it is a second or third swarm. When an old queen has been lost, some ten or more days before, several queens will sometimes issue with the first swarm. Leave it to the bees to settle, as to which queen shall be approved.

Nebraska Convention.—Mr. J. N. Heater, of Columbus, Neb., on Feb. 19, 1888, writes :

We have lately had a few days of very warm weather, and the bees have had a number of flights. Mrs. Heater's 100 colonies are wintering well, and are in fine condition.

I sent the report of the Nebraska Convention as published by the Nebraska *State Journal*, and expected it to be credited to that paper. With my name signed as Secretary it looks to those who do not understand it, that I had complimented myself.

When we receive a report of a convention from the Secretary, no matter whether it is printed in whole or in part, we consider it as an official report, and credit it to the Secretary. We failed to notice the remarks referred to about the Secretary, or we should have made an exception in this case. The above will straighten it out.

National Bee-Keepers' Union.—Mr. R. L. Meade, of Nassagaweya, Ont., on Feb. 17, 1888, writes thus concerning the Union :

I am surprised at the bee-keepers of the continent, who have a National Union for the defense of their own business, and yet it seems to be so very poorly sustained by such an intelligent class of men as bee-keepers generally are. Bee-keepers, send in your dollar. Strengthen the "hands" of the Union, and place it in a position to assist those of our calling when there is any necessity. We want 10,000 names on the National Bee-Keepers' Union list for this year. Here is my dollar.

Yes ; that is right. The only wonder is that there were not ten thousand members to the Union within a few months after its organization. There ought to have been *a general rush* to the defense of the pursuit. But too many are selfish, and think that so long as they are not molested, they will not join. But we notice that as soon as they are even threatened, they are rushing for some help, and want us to tell them what to do, etc. But the Advisory Board has decided that the Union ought to defend only those who have become members before they were in trouble. The present general apathy is very reprehensible.

Since writing the above, Mr. Z. A. Clark, of Arkadelphia, Ark., whose case the Union has now in hand, as before noted in these columns, has written to us stating that he has again been arrested for not moving his apiary outside of the city limits. He was fined, but appealed to the Circuit Court which meets next July. He was then informed that he would be arrested and fined every day in the interim, and if he does not pay the daily fine, he will be sent to prison !

The Manager of the Union has advised him just what to do, relying upon the fraternity to support in the defense of this and other cases now on hand. Will they do it ?

It will take nearly two thousand dollars to successfully defend the cases now on hand, and the Union must have two thousand more members, or it will be obliged to let the cases go by default—and the pursuit will suffer an ignominious *defeat !* Reader, are you satisfied to accept the latter as the result of your apathy ? If not, sit down at once and send a dollar to this office as a membership fee to the National Bee-Keepers' Union. You will get a receipt by return mail, and may then sleep soundly with the assurance that you have done your duty in this case ! It is *now* or *never !* Inaction will insure defeat—activity is *life*—energy—power !

UNION IS STRENGTH !

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

How to do it.—M. M. Baldridge, of St. Charles, Ills., makes the following good points in confirmation of the views expressed in his address before the Chicago Convention last fall :

Honey, the commission men say, is slow of sale and lower than some time ago. The reason is obvious to me, and it should be to others. The main reason is, that the grocers are unwilling, as a class, to invest in cash 20 to 22 cents per pound at wholesale, for honey, and take their chances of selling the same at 25 cents, which they must do to secure any profit at all. The result is the honey remains in the commission houses.

Now what does this teach ? Simply what my Chicago essay advocated, namely, the necessity of placing honey, in small lots, in grocers' hands, to be paid for when sold.

The fact is, there are at this time thousands of groceries, in this State, without a pound of honey in them for sale at any price. All the honey in the United States might have been sold by this date at 25 cents per pound for choice white comb, had it been kept where consumers could see and buy it.

The time will soon be here when the crop of 1888 will have to be placed on the market, and all should consider well the remarks of Mr. Baldridge, who has had more experience than almost any other man, in placing the honey on home-markets. We heartily commend the plan presented, and hope it will be practiced during the coming season.

Phenol for Foul Brood.—Wm. Beall, Ligonier, Ind., asks the following :

In Cheshire's pamphlet on foul brood, on pages 16 and 17, he mentions "Calvert's No. 1 phenol." What is that ? Our druggist knows nothing of it. How many drops are necessary to a quart of syrup for feeding bees, to cure foul brood ?

It is difficult to obtain pure phenol except of the large wholesale dealers. Calvert's No. 1 can be obtained at this office. One drop to 500 drops of the syrup is the formula recommended by Mr. Cheshire, as will be seen by the following from his pamphlet :

"I found that 1-200 (that is one part of pure phenol to 200 parts of syrup) was refused by the bees altogether ; that 1-400 might be given constantly to a sound colony without appearing to limit the queen in breeding, *or touch her health ;* that 1-500 dispatched foul brood quickly, even while honey was coming in ; and that 1-750 appeared enough when it was not. I have established these quantities as the correct ones." Moderate quantities are, therefore, not injurious.

A Compendium of useful know e about bees. This is what the Germantown, Pa., *Telegraph* of the 1st inst., calls our bee-book. Here is its notice in full :

BEES AND HONEY. By Thos. G. Newman, editor of the AMERICAN BEE JOURNAL, Chicago, Ills. Price, $1.—Gives in a concise manner the history of bees, tells how to establish and manage an apiary, describes hives and surplus receptacles, how to produce and care for honey, treats of bee-pasturage, improvement of bees, honey and bee shows, comb foundation and its use, honey extractor and its use, and closes an instructive and useful volume with general advice to beginners. It is a convenient compendium of useful knowledge on bees.

QUERIES & REPLIES.

FEEDING SORGHUH MOLASSES IN THE SPRING.

Written for the American Bee Journal

Query 519.—Will it do to feed sorghum molasses in the spring, mixed with sugar? Or will it do without mixing?—H., Iowa.

Yes, either way.—R. L. TAYLOR.

I have had no experience with "sorghum" as a bee-food.—H. D. CUTTING.

Take the sugar and leave the molasses alone.—J. P. H. BROWN.

Anything that the bees will take, will do at that time of the year.—G. M. DOOLITTLE.

I would prefer to feed the best white sugar, and let the molasses alone.—P. L. VIALLON.

If it is a good article it will do without mixing, if the weather is warm enough for the bees to fly.—A. B. MASON.

Sorghum is not fit to feed to bees at any time, mixed or unmixed.—M. MAHIN.

In the spring, when bees are flying freely, it will do to feed almost anything.—MRS. L. HARRISON.

We would not use sorghum, although it matters less in the spring. But the best sugar, we think, is just as cheap, for it contains more food.—DADANT & SON.

I would not feed sorghum molasses under any circumstances. Trade your molasses for white sugar, and make a syrup.—J. M. HAMBAUGH.

If the bees need feed, and will take sorghum molasses, I should give it in the spring.—G. L. TINKER.

If used up in breeding, it would not be objectionable. It would answer, I think, without mixing.—W. Z. HUTCHINSON.

I think that it will do either way. I have never tried it, but I should be very willing to do so, if any one would furnish the molasses.—A. J. COOK.

I think that there will be no trouble in feeding it clear, when bees can fly; but I should not want any of it clear or mixed, in the hive for winter.—C. C. MILLER.

I have never fed sorghum molasses, but if the bees like it, I think it would do no harm when they are flying every day. Whether it would be economical feed or not is another question.—EUGENE SECOR.

It will do to feed anything in the spring, when the bees can fly freely, which they will eat. Probably the sorghum molasses might do without the sugar. Surely the sugar would do without the molasses. Honey is better than either of them for feeding bees when they can fly and brood is desirable.—JAMES HEDDON.

It can be used in the spring either mixed or unmixed. It should only be fed in such quantities that it will *all* be used as food, and none stored for surplus or for winter stores.—J. E. POND.

If you can get the bees to take it, pure or mixed, it answers for breeding purposes as well as anything so far as I have seen; but some colonies are slow to take sorghum "in theirn." I have tempted them by flavoring it with honey.—G. W. DEMAREE.

I do not think that sorghum molasses will do, even if mixed with sugar. Such a compound would cost nearly as much as good sugar syrup, which is certainly much better for the purpose. —C. H. DIBBERN.

I never would feed bees anything inferior to honey. If there should be a charge of adulteration it will be convenient to be able to say that the alleged adulterant costs more than the article adulterated. Nothing "shuts up" the "smart Alecks" like this.—J. M. SHUCK.

It would be better to feed the bees with honey or sugar syrup. Why try to use sorghum molasses, and fuss with mixing sugar with it, when nothing would be saved, and absolutely nothing gained by its use? Sell the sorghum and buy sugar if you have no honey for spring feeding.—THE EDITOR.

MAKING HIVES, HAND-HOLES AND CAPS FOR HIVES.

Written for the American Bee Journal

Query 520.—I expect to make some hives with lumber planed on one side. 1. Will it be necessary to have the lumber on the inside of the hives planed? 2. What is the best way to make hand-holes in the hives? 3. What kind of a cap is best to turn rain and withstand wind?—M., Nebr.

1. No. 2. With a wabbling buzz-saw. 3. A board with cleats.—A. B. MASON.

1. No. 2. With a wabbling saw. 3. A sound, flat, cleated board.—W. Z. HUTCHINSON.

1. Hives with lumber planed on the inside can be more easily kept clean. 2. Use a wabbling saw. 3. Have the cap covered with tin.—J.P. H. BROWN.

1. It is not absolutely necessary, but it is better. 2. I do not need any. 3. A Langstroth cap, with matched cover, all things considered, is the best.—MRS. L. HARRISON.

1. It is not necessary, but it is better. 2. We do not make any. 3. We always use a roof over the cap.—DADANT & SON.

1. No; but I prefer to have it planed on both sides. 2. Hand-holes are best made with a gang of saws. 3. I prefer a plain board with cleated ends for a cover.—G. L. TINKER.

1. I would not make hives with lumber planed only on one side for my use. 2. With a wabbling saw. 3. A flat cap.—P. L. VIALLON.

1. It is not necessary. 2. A wabbled buzz-saw does it exeellently. 3. If a hive-cover is meant, a sound board well painted and cleated at the ends is good enough.—R. L. TAYLOR.

1. No, but it looks better. 2. If you can get a saw to cut them, that is best; if not, nail on a cleat. That serves about as well.—A. J. COOK.

1. It is not necessary, but I think it would be better. 2. A wabbling saw makes good work, but I think that a cutter-head makes a little smoother.—C. C. MILLER.

1. Have the inside planed, by all means. 2. Saw them with a wabbling saw. 3. Any that can be made water-tight. I have used all kinds, and have found no trouble.—J. E. POND.

Why not plane on each side and make a good, neat job of it? 2. A "dado head" is a good way; some use a wabble saw. 3. I do not know what is *the best*. What some think is the best, others would not use.—H. D. CUTTING.

1. I would use the rough side of the boards for the inside, then the hives can be painted, and it makes no difference to the bees. 2. I do not know. A strip can usually be nailed on, to answer the purpose. 3. Any kind that is water-tight, and will not blow off.—C. H. DIBBERN.

1. Lumber dressed on both sides always, and the lumber for hives should be "thicknessed" also, so that hives and parts of hives may be interchangeable. 2. Cut "hand-holes" with a wabbling saw. 3. A plain top-board made so that either side may be used next to the bees, is best. It soon becomes thoroughly propolized on both sides, and will not leak, and is not likely to blow off.—J. M. SHUCK.

1. No, it is not actually necessary, but enough better to pay for all trouble, in my opinion. 2. With a saw set wabbling, if you have a power saw. If not, holes bored for the fingers do very well. 3. I use one covered with tin, and I consider that it pays.—G. M. DOOLITTLE.

1. Yes, by all means. A rough surface will be a receptacle for large quantities of propolis. Little or none will be put on a perfectly smooth surface. 2. I see no need of hand-holes.

3. A cap made of ⅞-inch lumber, with comb roof. The cap should rest on cleats around the hive within ½-inch of the top of the brood-chamber.—M. Mahin.

1. You will save the bees a great deal of unnecessary work by having the inside smooth. They will propolize a rough surface. 2. If you have no circular saw to make hand-holes, a cleat nailed around the hive on the outside near the top is just as good. 3. A board cleated to prevent warping is just as good as anything.—Eugene Secor.

1. It would be preferable to have the lumber dressed on both sides. 2. With a buzz-saw, set wabbling on the mandrel. 3. When we cannot get lumber wide enough to cover the entire top, and are obliged to make two-piece lids, we cut a saw kerf at the bottom of the inside joints ½-inch deep, and insert a tin, V-shaped. Of course all lids should have at least two coats of good paint.—J. M. Hambaugh.

1. It is not necessary to have the lumber planed on the inside, although I prefer it so, but in your case, put the rough side in. 2. By setting a rip-saw wabbling, and then get some one who understands it, to tell you how to fix the rests, and let the pieces down on the saw, and take them up again without sawing your fingers off. 3. We have no trouble from rain or wind, and do not want any "cap" of any kind.—James Heddon.

1. If the lumber is ordinarily smooth from the saw, there is no need of dressing the inside of the board. I have used a number of hives made in that way, and they are as good as any. 2. In the absence of machinery to cut the "hand-holes" with a saw set wabbling, you can lay a ½-inch strip of wood about 3 inches below the top of the end-piece of the hive, and draw a line on sach side of the strip, so as to be about 3½ inches long; then with the the point of a sharp pocket-knife, trace the lines, cutting as deep as you can conveniently; and then with a sharp, ½-inch chisel, make a cut slanting towards the centre at each end of the lines, pry out the "chip," and clean out nicely with the chisel. I can cut the hand-holes quite rapidly in this way. 3. I do not know what you mean by a "cap." I use a flat, cleated hive-cover, and a water-tight shade-board over it.—G. W. Demaree.

1. It is not absolutely necessary, but it would be very slovenly to have it rough. 2. A cutter-head does the work neatly, but a wabbling saw will do it well enough, if any hand-holes are thought to be necessary. 3. Opinions differ, but any cap will do that cannot easily he blown off, and which is water-tight.—The Editor.

CORRESPONDENCE.

GOOD QUEENS.

Queens not Reared by Natural Swarming Inferior.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

On page 790 of the Bee Journal for 1887, appeared a very interesting article from the pen of that sharp, but good-natured writer, G. W. Demaree. I am really glad he wrote that article, for it gives me a chance to say some things which I have desired to say for some time. But I have no desire to do so, in aught but a kindly spirit, and for good, regarding the improvement of our queens; for the spirit of controversy should never enter into any discussion if we would benefit the world, and those with whom we disagree.

I accord to Mr. Demaree, that "right to his own views" which he gives to me, most willingly, and would not have said a word further, were it not that he seems to think that my articles on the subject of queen-rearing are "mere assertions" which are based on "mistaken *theory*, except so far as I bring my own *experience* as proof of the soundness of my position." Did I desire so to do, I could bring to my rescue regarding the superiority of queens reared by natural swarming, such great lights as Grimm, Gallup, Heddon, etc.; but as Mr. Demaree only lays down his *theories* and *experience* beside mine, I consider it unnecessary to do so.

My experience with "artificial" queens dates back to 1870, when I became "crazy" on the subject of queen-rearing—crazy about that kind which "costs the apiarist nothing," or but a trifle at least, and so I reared lots of these cheap queens, only to find in 1872–73 that my apiary was almost ruined by the death of queens, dying of old age after a period of only eight months to a year and a half had elapsed after they had left their cells.

When the "dollar"-queen business was first started, I opposed it, as nearly all of our older bee-keepers know, opposing it on the ground that so many queens of the kind "which cost nothing," would be put upon the market. I have never fought such queens as Mr. Demaree rears, only so far as the claim is concerned that they are *better* than those reared by natural swarming. My main effort has been to impress upon the minds of all, that we as apiarists should try to rear queens of the *highest type* for honey-production, gentleness, good wintering qualities, length of life, and strength of workers, enabling them to fly further, fly faster, and endure more hardships than their ancestors did. Has this not been a worthy object?

It is hardly fair for Mr. Demaree to take his best specimens of queens reared under the greatest care and skill at his command, and compare them with the poorest of natural-swarming queens. I am as well aware as any one, that even "queens reared by natural swarming" can be so abused as to have the queens of little value, in these days of controlling after-swarms by the many methods put forth. Candidly, did Mr. Demaree ever try my plan of rearing queens by natural swarming, where half of the swarm is returned to await the development of the young queens? And after such queens were laying, did he ever compare them with his that were reared under "scientific breeding?" If not, I wish he would do so and report. But to return:

Why I opposed the whole "dollar"-queen traffic, was because queens under this name, sent out for $6 to $9 a dozen, were reared by no "scientific breeding," but by all the poorest plans and tricks known to the trade.

To illustrate: A few years ago I wrote to a prominent queen-breeder, whose name stands very high, for a "dollar"-queen. He replied as follows: "I am shipping queens by nearly every mail, but as I am desirous of your good opinion, I would like to rear one for you when I rear my own, which I am now preparing to do. If you can wait, I shall be pleased to have you do so." If this queen-breeder was rearing and sending out queens, equal to queens reared by natural swarming, or as good as Mr. Demaree rears, why did he wish that I should wait? His pretensions in the bee-papers, that queens from the egg "were better than those from natural swarming," with such an acknowledgement from him, amount to nothing with me; and it was at this class of queen-rearers that my article was aimed, to which Mr. Demaree refers.

If all queens, reared and sent out, were as Mr. D. represents his to be, I should not have been called upon to have said a word. That they are not, is often proven by my correspondence.

One writes in the month of May: "What is the trouble with the queens that I have bought? Last week I found three dead in front of their hives. This leaves but two out of six introduced last fall. The season before, out of three introduced in August, I had only one left in the spring, and she failed in June."

Another says: "Out of nine queens purchased, seven did not live six

months, and only one of them lived a year." Still another says: "I am disgusted with buying cheap queens; five out of six purchased this season having died of old age." And so I might go on with many more of a similar nature, but the above is enough to convince all, that *all* queens sent out are not such as they would desire to stock an apiary with.

One thing, however, I am pleased to note, namely, that the number of poor queens sent out is growing proportionately less with each year, and I hope this state of things may continue, until all may feel the responsibility that is resting upon them, to do to others as they would be done by. Always bear in mind, fellow bee-keepers, that upon the queen largely depends the profit or loss in apiculture, and to her we must look quite largely, if we are to compete with the low prices of our product, predicted by some, in the near future.

Borodino, N. Y.

[Bro. Doolittle is right. We have repeatedly protested against the cheap-queen traffic. What we need is better queens, not lower prices. One *good* queen is worth a dozen poor and correspondingly *cheap* ones. This "heap-by-cheap" business is the bane of modern apiculture, and should be "frowned down" by all who desire its prosperity.—ED.]

SHALLOW HIVES.

Shallow Brood-Frames and Side-Opening Sections.

Written for the American Bee Journal
BY M. M. BALDRIDGE.

Under date of Feb. 13, Dr. Tinker writes me as follows:

1. I am especially pleased to hear your opinion of 7-inch brood-frames. From it I infer that your verdict will not differ much from mine on the Heddon hive.

2. The great value of the open-side section rests mainly upon the proper ventilation which it affords.

My reply to the foregoing is as follows: 1. I have, as before stated, used many hives with brood-frames 7 inches deep, in the clear, and have used more or less of them since 1876; ten frames in each story, but eight frames would be better. Geo. Thompson, of Geneva, Ills., and Jas. M. Marvin, of this city, have used 6-inch brood-frames, 11 in each story, since 1877, and they still prefer them to deeper ones. They now use no other hive, and claim that bees winter as well in these shallow hives as in deeper ones. They always winter their bees in the cellar.

I have read Dr. Tinker's essay on Heddon's new hive very carefully, but I cannot endorse all he says. I have not yet used this hive, but I do not apprehend any trouble in its use; nor do I expect to find the difficulties and objections as set forth in the Doctor's essay. I shall try to use some of the new hives the coming season, and then I shall know for myself. I still think, however, as favorable of Heddon's new hive as I did one year ago.

Open-Side Sections and Ventilation.

The open-side sections may be just what honey-produeers want, and they may not be. I would rather use them awhile before I express an opinion. I can, however, force bees to store *all* their honey in any style of section; and, I think I know how to secure the surplus in sections free from bee-bread—no matter how shallow the brood-frames may be. I also think that I know how to construct and to manipulate the sectional brood-chamber so there will he no comb, worthy of mention, between the two sets of brood-frames.

St. Charles, Ills.

NEW YORK.

The Second Day of the State Convention—Jan. 18.

Written for the American Bee Journal
BY G. H. KNICKERBOCKER.

The convention was called to order at 9 a.m., and the following were appointed a committee on exhibits: W. L. Coggshall, J. H. Taylor, and W. H. Beach.

The question, "How can we organize an international bee-keepers' association that will best promote the interests of bee-keeping?" was then taken up, and the following essay from Dr. C. C. Miller, of Marengo, Ills., was then read by the Secretary:

An Inter-National Bee-Society.

Before inquiring "how," it may be well to inquire whether it is desirable to do so at all. Only a few weeks ago an organization held its 18th annual meeting in Chicago, whose avowed object is "to promote the interests of bee-culture." As this is the thing inquired for, have we need of anything further? The North American Bee-Keepers' Society has identified with it some of the best men of our ranks. So far as I know, great harmony prevails in it, quite free from bickerings and jealousies, its meetings are profitable and highly enjoyable, and the reports thereof eagerly read by thousands who are not enrolled members. But the fact that among its warmest friends are found those who are raising the question as to some change in its character, shows that, as constituted at present, it is not all that can be desired.

Whether it be better to amend the present organization, or to organize anew, in either case it is desirable to discuss the matter thoroughly in convention, and also in the bee-papers, and try to find out just exactly what is wanted.

At the Chicago convention Mr. Newman suggested a plan of operation. Let others give their thoughts. If the matter is fully talked up, I do not see why we cannot be ready for action sometime during the present year, if indeed a feasible plan of action can be agreed upon at all.

I do not feel competent to map out a plan, and all I shall say is merely in the way of a starter. Perhaps it may help to say what there is in the North American Bee-Keepers' Association, as now constituted, that ought not to be.

It ought not to be local. To a considerable extent it is comparing the last North American with the last Northwestern, both being held in Chicago. The North American had seven more members in attendance than the Northwestern, one more State represented, and one member from Canada. At the last meeting of the North American in New York, besides the members from New York, there were present as follows: Ontario, 7; Pennsylvania, 4; Georgia, 1; Ohio, 1; Massachusetts, 1; fourteen in all.

You can judge better than I, how much this differed from a State convention. Does it not look a little like a farce to call this a North American convention, in which more than six-sevenths of the States were in no manner represented? I remember hearing an old professor once say, "Yes, any fool can find fault, but the remedy is what we want." I have taken the fool's part, and leave others to find the remedy. I know that some New York bee-keepers are awake on this subject, and I shall look with interest for a report of your discussions, as indeed I always do. C. C. MILLER.

John Aspinwall—The cry for better organization comes from every quarter. We have no organization as it should be. The name "association" is a misnomer. We have conventions rather than associations. The formation of an international association must be accomplished by calling on the various associations, and these should be affiliated with the "national." It is ridiculous to think that an international association can be formed by

the North American Association, by simply saying, "We form ourselves into an International Association." It should begin with county organizations.

Mr. Aspinwall also described briefly the methods of the British Bee-Keepers' Association, which has a membership of 3,000; referred to the use of a "brand" by the dairymen, and advocated the adoption of a copyright label and a bottle with the mark of the association blown in it, to be used by all members of the association, thus giving a guarantee of the purity of extracted honey.

A. I. Root said that something ought to be done to obtain a more thorough organization, and that it should be a united and concerted body. He heartily favored the movement, and thought that more enthusiasm should be aroused among the bee-keepers, and that such an association should also look after the freights charged shippers, as in some places they charge more to carry honey than they do to carry molasses.

N. N. Betsinger was in favor of a "union," but believed that the association should be for the benefit of its members, and not for all the rest of the world.

W. L. Coggshall said that he was willing to make monthly reports, and give $1 to sustain an organization for the dissemination of such reports to all members. Several others spoke briefly on the subject, after which the following resolution was offered by Mr. Aspinwall and adopted:

Resolved, That a committee of three be appointed to draft a scheme for the formation of an International Association, which shall be of benefit to its members; the report to be returned this evening.

The chairman named John Aspinwall, C. G. Dickinson and A. I. Root as the committee.

Miscellaneous Topics.

The giving away of secrets was discussed *pro* and *con*. Some were in favor of publishing everything, while others believed that for the best interests of those already engaged in the pursuit, all knowledge and secrets should not be scattered broadcast.

The origin and different treatments of foul brood was also fully discussed. Mr. Betsinger said that the simplest, easiest and surest method was by the use of salt. Some had laughed at and ridiculed the statements that he had made at Syracuse a few years ago, but he said that he now has Mr. N. W. McLain to back him up, and he considered him good authority.

The inaccuracy of the newspaper quotations in regard to honey was also discussed. Thos. W. Mulford said that the market reports were hard to obtain, and must be taken from dealers near at hand; but if bee-keepers would send them correct reports, they would be glad to publish them.

A recess was then taken until 1:30 p.m.

AFTERNOON SESSION.

The convention was called to order at 1:30 p.m. by President Clark. The Secretary then read a letter from I. L. Scofield, the Treasurer, stating that he was sick. Mr. Betsinger suggested that the Secretary obtain the report of the Treasurer, by mail, and incorporate it in the minutes of the session.

The election of officers resulted as follows: President, W. E. Clark, of Oriskany; Vice-President, P. H. Elwood, of Starkville; Secretary, G. H. Kinckerbocker, of Pine Plains; and Treasurer, C. M. Goodspeed, of Thorn Hill.

President Clark then called Vice-President Elwood to the chair and delivered his annual address.

The Production of Comb Honey.

"The best management of the apiary to produce comb honey," was then discussed.

Mr. P. H. Elwood—The principal thing in producing comb honey is to get strong colonies early in the season, as almost everything hinges on this one feature. I cannot recall a single instance when our bees were in good condition, that we did not get a fair crop; but I remember that we failed several times because we could not get them strong in time for the harvest. I have used wide frames at the sides of the brood-nest, but we abandoned that because we got no more honey than by top-storing. We have practiced making colonies queenless for several years, and have had good results; no system that we have ever tried will produce as much comb honey as by this way. The principal drawback is in re-queening. We first adopted this method when we had chiefly black bees, and then did not have as much trouble in re-queening. We leave the colonies queenless 16 to 18 days.

Mr. Root—Will the colony not rear a queen if there was brood left in the hive?

Mr. Elwood—We prevent that by breaking out all the queen-cells on the ninth day.

N. N. Betsinger—I would advise a method very similar to Mr. Elwood's, except that I would not destroy the queen.

The Reversible Feature in Hives.

R. L. Crocker—I used the past season 46 reversible hives, and 41 Quinby hives. I followed the directions of Mr. Heddon as nearly as I could, and was very successful. I worked the hives exclusively for comb honey, used only one shallow brood-chamber, and I did not reverse it. The past season was a very poor one. New swarms, that were put into the Heddon hives stored rather more honey in the boxes than those put in Quinby hives, and in the fall were as strong in bees as other new colonies, but had scarcely any honey in the brood-chamber, and some of them had nothing at all. The most of those in Quinby hives had enough to winter on. I have always had the best results the first season with the Heddon hives; after that the Quinby gives the best results. The bees in the Quinby hives also build up *very much* faster in the spring, than those in Heddon hives.

In answer to some further queries, Mr. Crocker said: "I am not as yet fully satisfied with the Heddon hive, and I do not think that it is the hive that I want."

Artificial Fertilization of Queens.

The subject of "Artificial Fertilization of Queens" was discussed as follows:

C. M. Goodspeed—Years ago this wonderful feat was said to have been accomplished. We have had 10 or 15 years of success alternating between the green-house, the tent, the barrel, the hive, the operator's thumb and finger, and last the royal-cell itself. Each of these has had its advocates, its experiments, its proclaimed success, and in its turn has sunk into the oblivion of practical nothingness. We will take a passing view of two only of the above methods of securing artificial fertilization. First, let us consider the manipulation as it is practiced on the royal-cell. After the embryo germ has attained some size, or about two days before the cell is capped, select two or three drone larvæ of about the same age, reduce them to complete jelly, and place in the royal-cell about two drops (or that bulk) of this mass. If more is used, the bees will eject the whole. I have also used the organs of mature drones for this same purpose. I can and have repeatedly produced queens by this process as large when first hatched as laying queens, and from all appearance one would judge them to be such. But in every instance during a whole summer's trial, I failed of getting the desired result; a short time after hatching they assumed the size and motion of a virgin queen. After the queen-cell is entirely completed, the same operation may be performed through the side of the cell, but the closing up must be carefully secured by melted wax, or the bees will destroy the whole. The above I call unsuccessful.

Mr. Goodspeed then read some extracts from a report of successful experiments made by N. W. McLain. Continuing he said:

I believe that the best method is this: Select the colony containing the drones you wish to use. Isolate it so far as convenient. Place the queen within hearing. Secure by guards both drones and queen from flight. Confine the drones until 4 o'clock, or an hour after the natural flight of drones. At the time and place of the experiment, give them a regular flight each day. At this time, when the selected drones are well in air, liberate the queen and wait for her return, which will be in a very short time. Nine times out of ten it will succeed in this way. The mating is perfectly natural, yet all the advantages of the "artificial" are secured with none of the disadvantages.

Combs in Unfinished Sections.

Mr. Foster asked if it was profitable to use the combs in unfinished sections the second year.

Mr. Elwood — Yes; extract the honey and use them as "bait" to get the bees to work sooner in the boxes.

Mr. Foster—I have done so, and taken pains with them, but the honey was of inferior quality, and the combs presented a watery appearance.

Mr. Betsinger said that the honey was not all removed from the combs; that this had granulated, and caused the watery appearance. It is always best, after the honey is extracted, to let the bees clean out the combs before putting them away.

Mr. Elwood—We expect the honey to be second quality, because it is gathered first, and remains longest on the hives; but I know of no way to get the bees to work in the sections as soon.

The President then appointed John Aspinwall and N. N. Betsinger members of the committee on Constitution and By-Laws, in place of S. M, Locke and I. L. Scofield. P. H. Elwood, C. M. Goodspeed, and J. H. Taylor were also appointed as a committee on resolutions, after which an adjournment was taken until 7:30 p.m.

EVENING SESSION.

The Secretary read a letter from Mr. L. C. Root, deeply regretting his inability to be present, and open the discussion on the question, "How can we increase the demand for honey and maintain present prices?" He, however, submitted an essay, which was then read, and the sentiments generally approved.

Mr. Aspinwall—I believe that Mr. Root has hit the nail squarely on the head, and covered the ground perfectly.

It was then suggested that, inasmuch as Mr. Root had removed from the State, the Association should make him an honorary life member, with all the rights and privileges of the Association. This was then done.

President Clark remarked, that the Association now had two Roots as honorary members, and if they only would strike deep enough, the Association would be firmly "rooted."

The committee on constitution and by-laws submitted its report, which was substantially the same as the old constitution, with the amendments which were made at Syracuse, in 1885. After a short discussion and a few slight changes, the report was adopted.

Mr. Root, of the committee on the question-box reported 16 questions and replies.

Marketing Comb Honey.

This subject was then discussed by N. N. Betsinger. Going back to the infancy of honey marketing, he noted the gradual increase in sales, and talked about prices for honey, past, present and future. He attributed the fluctuations, in a large part, to the packages in which it was sold. He thought that the improvements made, both in the packing and placing on the market, increased the sales, as the consumers were continually wanting something new. He believed that false reports in regard to the amount of the honey crop also had its influence on the market.

Mr. Dickinson said that there is now too much variety in shape and size of packages. I think that the wishes of the wholesale dealers in regard to the size of packages should be consulted. He also said that dealers preferred to have packages that were a little short, rather than over-weight; that is, a 25-pound package should weigh a trifle less, rather than to weigh 26 or 27 pounds. Retail grocers selling them out by the piece, lose on the heavier packages, and therefore they always reject them and selected the lighter crates. He also advised the grading of honey very carefully, without veneering the crates. Get the honey into the market as clean and nice as possible.

A few minor subjects were discussed, after which the report of the committee to draft a scheme for the formation of an international association was called for, which was then read, and after a short discussion, was "tabled" until a subsequent session.

A recess was then taken until 9 a.m.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

SECTION HONEY.

The Use of Thin Foundation for Comb Honey in Sections.

Written for the American Bee Journal

BY F. I. SAGE & SON.

During the past few years we have had much complaint, and many curious questions asked, regarding the so-called "fish-bone" found in honey in sections by consumers. We have before asserted that there are many thousands of intelligent people who believe that tons of comb honey is manufactured by man, without the least aid from the bees, and these people, when they purchase a section or two of honey in the centre of which they find a thick sheet of gutta percha (as they express it), are quite easily convinced that "Wiley" knew what he was talking about when he wrote his "scientific pleasantries."

That Wiley and thick foundation have greatly damaged the honey-trade, we have not the slightest doubt, and although many bee-keepers may take it all as a "huge joke," if they could but follow us through our honey-selling routes, they would be quickly convinced that we are correct in our estimate of the damage done to bee-keepers by these causes.

So well satisfied are we that the two causes named above have, and are damaging our honey-trade, that we the past season conducted some tests and experiments to decide as to which is the best style and manufacture of *thin* foundation for honey in sections; and without consuming space by going into the details of our tests, we will simply say that the *thin*, flat-bottomed foundation proved to be decidedly the best and most satisfactory of any. We hope that all bee-keepers of whom we buy honey will hereafter use thin, flat-bottomed comb foundation. We recommend this because it has proved to be most satisfactory to us, for we are not acquainted with the makers of it.

This section-foundation question is a serious one, and has more influence on the honey market than many bee-keepers are aware of. At first glance, we should most certainly decide that foundation made with natural shape of base would be most acceptable to the bees, but our practice proves the superiority of the flat-bottom foundation; and it has occurred to us that *possibly* the bees are *compelled* to still further thin and manipulate the flat-bottom cell in order to bring it to the desired shape.

We do not think it advisable for bee-keepers to make thin foundation for their own use, as not more than one in twenty would produce an article equal to that made by almost *any* of

the leading manufactures. Of one thing our bee-keeping friends may be certain, viz: That we shall hereafter be more particular when buying honey, to examine very closely the quality and thickness of foundation used in their sections. We hope they will consider their own and our interests identical in this matter, and govern themselves accordingly.

Wethersfield, Conn.

GRAPES AND BEES.

Poisoning the Bees, as Advised by the "Messenger."

Written for the American Bee Journal

BY G. B. OLNEY.

No doubt any one would have been surprised to have overheard the interview which I had on Feb. 11, with our Atlantic "Wiley," the editor of the death *Messenger*. After exchanging a few compliments, etc., I accosted him with the following: "I would be pleased to know the author of an item published in the *Messenger* a short time ago, proposing a plan of administering an active poison to the honey-bee, for the purpose of protecting the grape-culture of our vast and noble country, of this free and independent America."

"Well, yes," said Mr. Wiley, "I remember there was an article something of that nature in one of the back numbers, and, by the way, in some places the bees are creating sad havoc with many grape-fields, and I don't see why something isn't done to rid such parts of the country of the little pests. In some places there are State laws to protect certain districts wherein grape-fields exist to any great extent."

Where do such laws exist, Mr. Wiley? "Why, in California, for one."

Any other place?

"Well, that is the principal place where grape-growing, as a general thing, is made a specialty, and the growers have to be protected."

By what authority do you say such laws exist in that State? "Why, Dick Harding told me, and he came right from there."

Dick Harding! said I. That little, low-lifed, brainless, one-horse lawyer! Is it possible, Hank, that you have come to this, to lay yourself bare to the world from information received from a some-and-substance of a complete nothinguess. If you are no better judge of calibre than that, I pity you.

I then gave him the BEE JOURNAL of Dec. 21, 1887. He looked at it, and then with a clinched fist, "banged" upon it, and roared aloud: "There's a lie right there; he says it is a local sheet!" It was no sheet at all; it was a slip. I saw it before the fellow sent it, and I didn't know until lately that there was a BEE JOURNAL published.

Wiley, I beg to inform you that that BEE JOURNAL was first edited at Washington, D. C., by Samuel Wagner, in 1861; then in Chicago by Thos. G. Newman, and has a circulation throughout every civilized nation on the globe. I do wonder what you have been at the last twelve years of your editorial life! Not dead, are you? but sleeping! And now, sir, I think you have a much larger wad than you can conveniently swallow, and unless your throat is more elastic than I think it is, it may choke a little before you get it down. It is not likely you could do much harm amid the intelligent men and women that might perchance read your article; but there are some that might think they had struck a bonanza on "protection," and adopt your nefarious scheme of extermination, thus laying themselves liable to the law, damage the innocent, and do untold mischief.

I then left him in his dilemma, and called on a Mr. Bates, editor of the Cass County *Democrat* who is a gentleman, and an honor to his profession. He readily caught up the line of thought intended, and requested me to leave the number of the BEE JOURNAL with him. I did so, of course, and in the next issue of the *Democrat* he gave the *Messenger* and his nefarious article a severe censure.

Atlantic, Iowa.

STARTERS.

Fastening Foundation in the Sections.

Written for the American Bee Journal

BY ELIAS FOX.

I would say in reply to Mr. Eden's article, on page 27, that he is a very good mathematician, and so far as he has gone, he has figured correctly. I would like to have him compute the cost of fastening starters by using melting wax. I have tried both, and for *me* my method is cheaper, better, and more speedy.

I never have found any starters curled to one side, and I have had them stand all winter. If they are properly fastened by my method, they will *not* curl.

Mr. Eden also says that if I should use a starter that would reach across the section, I would find that it would prove very unsatisfactory. In reply to this I would say that I use the same implement for fastening foundation in brood-frames, and prefer it to any other method.

In reference to Mr. Haag's article on page 42, I suggest that I did not say that my method of fastening foundation was the only satisfactory method. It has *proven* so for *me*, and if Mr. Haag does not approve of it I would advise him not to use it. I have tried his method, and discarded it on account of the waste of time and wax. I said that not one starter in 500 would drop off, if properly put on! You cannot get bees enough on one to break it loose. I have no use for grooved sections.

My bees seem to be in as good condition as when I put them in the cellar, which was on Nov. 8, 1887.

Hillsborough, Wis., Feb. 2, 1888.

WINTERING BEES.

Bees Wintered in the Cellar—Rearing Queens.

Written for the American Bee Journal

BY WM. H. FORD.

In the fall of 1886, I put into the cellar 23 colonies of bees, and they wintered well. I took them out in the spring about March 28, with the loss of but one colony, its queen having died of old age. So I had 22 colonies to commence with last season. They built up fast, and were strong by the time apple trees bloomed. Swarms were expected early, but on the account of the dry weather there was scarcely any colonies that swarmed. I had only 5 or 6 swarms, but only one did anything, and the rest I doubled up.

I purchased one imported queen on Aug. 25, and a 3-frame nucleus. Can I rear queens from them in the spring? What method is the best for early spring?

I put 23 colonies into the cellar last fall, and I think they are wintering all right. They did not gather any honey the past season. Basswood bloomed about July 1, but on account of dry weather it did not yield any honey; so I had to feed my bees for winter stores. I put them into the cellar on Nov. 14, 1887.

I owe the AMERICAN BEE JOURNAL many thanks for what knowledge I have obtained from it. This report is written for my apiary located in Marshalltown, Iowa.

Yorkville, Ills., Feb. 6, 1888.

[Yes; you can rear queens from the imported bees in the spring. Remove the queen, and let the bees start queen-cells. If you want several queens, transfer the cells to nuclei, and when the queens are laying, you can introduce them to full colonies.—ED.]

BRACE-COMBS.

The Objections to the Sectional Hives Discussed.

Written for the American Bee Journal

BY JAMES HEDDON.

I quote the following from a letter just received from one of New England's brightest bee-keepers, and withhold the name because I have not the writer's permission to publish it :

Referring to the essay read by Dr. G. L. Tinker, at the convention of Ohio bee-keepers, regarding the sectional brood-chamber, etc., will you please give, through the columns of the AMERICAN BEE JOURNAL, your answer to his statements ; especially where he says, "If the honey-flow is extra good, the bees proceed to fill up the horizontal space between the two brood-cases, with brace-combs, and fill in with honey?" We have not yet arrived at this point. He seems to have given this style of hive a black eye, so to speak, and if you can give any satisfactory answer to this statement, we should be very glad to see it.

Well, neither have I yet arrived at the point in question. I can truthfully state that during a four-years' use of the hive, I have never met this brace-comb trouble, and the following quotations from Dr. Tinker's article on page 154, of 1886, makes his essay quite an enigma. I quote :

But first, what is the most practical and advantageous method of disposing of the brood near the sections at will ? Beyond question it is the proper management of the shallow, sectional brood-chamber. Has it any disadvantages ? We assert fearlessly that it has not, neither in wintering, the laying of the queen, nor in the manipulation of hives or combs.

In another place in that article we find this :

Again, as we shall not have occasion to handle the frames very much, but instead, the sectional cases, it will not be greatly to our advantage to have the frames as readily movable as are the Langstroth frames. On this account, a very simple case is all that is necessary to hold the frames.

This was written after my new hive was brought out, and in Mr. Root's foot-notes to the article, he says :

By the way, the Doctor's letter is a consideration of the principles suggested by friend Heddon, though he does not say so.

No, my name was not mentioned, but more than ignored, although nowhere in all prior bee-literature, could one word relative to these principles be found.

The honey season of 1886 was an extra good one in the Doctor's location, he tells us, and after passing through that good season, securing a large yield of surplus comb honey, especially over my divisible brood-chambers, as he wrote me, he sent me the following testimonial, dated Oct. 9, 1886 :

I have been able the past season (which has been extra good in this locality) to make a full and, as I think, satisfactory trial of your new principles, in the use of 38 hives. Your double brood-chamber of cases, made so as to be interchangeable and invertible, is a great success, in working for comb honey. The facility for contracting and expanding the brood-space is perfect, and the advantages to be secured are so great that the practical apiarist of to-day cannot afford to dispense with the use of a system so valuable.—DR. G. L. TINKER.

After carefully looking up the matter of the novelty of my invention, the Doctor placed in his circular for 1887, the following :

The new system of management of sectional bee-hives, recently introduced by Mr. James Heddon, has wrought a great change in the practice of many of our largest bee-keepers....The justice of Mr. Heddon's claims (of invention) have been generally admitted, and all should recognize his rights.

Now if the brace-combs did not prevent the Doctor from saying as above, "The facility for contracting and expanding the brood-space is perfect," during a bountiful honey season, by what hook or crook, or mistaken management, could he have experienced all these brace-combs during the past poor season ? This is the first reported case of trouble of this kind, if I remember aright, and over 500 bee-keepes have the new hives in use.

But, as the correspondent says, the Doctor gives the whole thing "a black eye," and space forbids further refutations of his mistakes. They are not such bad ones, however, as were the "continuous passage-ways."

Here, we all believe we knew very much about the functions of the style of hive that the Doctor praises in his essay in question. Before we finally settled on the divisible brood-chamber, and realizing that it would be cheaper of construction, we made a single-case brood-chamber on the same plan of my present brood-cases, and while I much prefer it to the style of brood-chamber described by the Doctor, I found that I lost the advantages of the contraction system, rendered the shake out function only partially operative, as also the system of examining the condition of the interior of the brood-chamber, clipping out queen-cells, etc., without exposure to robbers, or removing a frame ; and also that alternating system, so truly and positively eulogized by the Doctor in his former article. I found I could not afford to use a brood-chamber so small as the 8-frame Langstroth brood-chamber during the months of May and June, nor so large as that during other portions of the year.

But as to the philosophy of the Doctor's error regarding the impracticability of the bee-space between the sections of my new brood-chamber, and the practicability of piling one whole brood-chamber on top of another, I am sure all observing bee-keepers of any considerable experience will at once recognize his mistake. Years of experience with both kinds of manipulation have demonstrated to me what I will now try to show the reasons for, basing my deductions on well-known facts.

Who does not know that bees build most brace-combs through that portion of the hive where storage is going on, rather than breeding ? This is not all; just as surely as bees store most readily close to the brood, so of all places where most brace-combs will be built and stored with honey, none can compare with just above the brood circle.

As a rule, queens rarely breed clear up to the top-bars of the Langstroth frames, and the 10-inch Langstroth hive exceeds all other depths for the building of brace-combs between the top-bars of the frames and honey-board, or frames and surplus receptacles, where no board is used. As hives increase or decrease in depth, brace-comb building grows less, and more particularly is this the case as the depth is lessened.

When the brood-chamber is so shallow that the brood comes clear up to the top-bars, and that, too, nearly throughout their entire length, scarcely any brace-combs are found between them and the honey-board.

But one writes me that he did have lots of brace-combs built when he used but half of the new brood-chamber, or one brood-case. Certainly he did, because *he* contracted the brood-chamber, and then did not correspondingly enlarge the surplus department. Contraction is intended to, and results in, increased surplus comb-building, and in case we do not give ample room in the surplus department, the bees will turn this newly-created tendency to building brace-combs.

Now if one should pile one Langstroth brood-chamber upon another, and let the bees alone, the bee-space between them might not have as many brace-combs in them as would be found between the sections of the new brood-chamber, because almost double the room is furnished in the former case. But let us place two comb-honey cases on the new brood-chamber, making the total capacity the same, and then compare, and ten times as many brace-combs will be found between the two brood-chambers. In other words, a bee-space opened in the middle of the brood-nest, is not nearly so likely to be filled with brace-combs, as one opened just above it, or in the surplus department ; and I suppose that all experienced bee-keepers know this.

I have never had one particle of trouble about alternating and separating the halves of my brood-chamber, and I never before heard of any one

who had, but all will have some if they neglect to give their bees the surplus room which the honey-flow demands. Every adverse report which I have heard, has resulted directly from improper construction or manipulation of the hives; usually the former. The hive and system are entirely new.

Reports Wanted.

Now, Mr. Editor, it seems that there is no longer any worthy dispute as to who is the inventor of the hive in question; and with regard to the value of it, would it not be desirable to test its use practically, and call for a brief report of the actual experience of those who have used them?

As I am now issuing a weekly paper, I know the value of "space," much better than formerly, and that the answers may be short (of few words) I would suggest the following questions, each to be answered with a word or two, and only by those who have used the hive in question:

1. How many hives have you used, and for how many seasons?
2. Who made the hives, and from what pattern?
3. What style of hive do you now prefer, all things considered?

Dowagiac, Mich.

[As the hive in question has been adversely mentioned in the report of the Ohio Convention, and as both it and the system of management are *new*, it will be in the interest of the pursuit to let those report briefly, as suggested, who have tested it. Let the replies to the above questions be brief and to the point, or else we cannot promise to give space to this matter. Send all the Reports to this office direct.—Ed.]

CONVENTION NOTICES.

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited.
W. H. BEACH, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

This is the Time for reading. The long winter evenings can be utilized by reading up bee-literature. We have all the newest bee-books, and can fill all orders on the day they are received.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Apr. 11.—	Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.
Apr. 24.—	Des Moines County, at Burlington, Iowa. John Nau, Sec., Middletown, Iowa.
May 5.—	Susquehanna County, at New Milford, Pa. H. M. Seeley, Sec., Harford, Pa.
May 8.—	Cortland Union, at Cortland, N. Y. W. H. Beach, Sec., Cortland, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Light Honey Crop.—David Watterson, Bristow, Iowa, on Feb. 5, 1888, writes:

I had 29 colonies of bees in 1886, and lost all but 3 colonies, and I have 9 colonies now. The winter had been very cold until last Thursday; it is pleasant now. The honey crop was light, but there was 25 or 30 acres of buckwheat near me, and I got 75 pounds of honey. The indications for white clover are good, if it does not get winter-killed. There are plenty of flowers on the prairies, and if we can save our bees, there would be plenty of honey. In 1887 the white clover was nearly all killed, and about 90 per cent. of the bees.

Bees Had a Fine Flight.—Jno. D. Wise, Camden, Ind., on Feb. 14, 1888, says:

I commenced the season of 1887 with 6 colonies, increased them to 10 colonies, and my crop of honey was about 60 pounds of comb honey, which I obtained from 3 of my strongest colonies. White clover yielded a little honey. Linden, although full of bloom, yielded no nectar. The bees stored enough from golden-rod and other fall flowers so that I think they will winter all right. They had a very fine flight yesterday, and seem to be in good condition. Six colonies are on the summer stands, with chaff cushions on the frames. I have 4 colonies in chaff hives.

Good Flights for the Bees.—J. M. Harvey, Brooks, Iowa, on Feb. 20, 1888, says:

I had 75 colonies of bees to commence the season of 1887, that increased to 107 colonies, and gathered 500 pounds of comb honey, and 500 pounds of extracted honey, from white clover and basswood. I stored 94 colonies in the cellar on Nov. 18, 1887, and they are in good condition, with the temperature from 44° to 48°. I have 13 colonies on the summer stands, and I have lost one; the others had a flight on Jan. 28 and Jan. 29, and also on Feb. 16 and Feb. 17.

Sawed Sections.—Chas. H. Van Vechten, of Victor, N. Y., asks:

How can I smooth the sections after leaving the saw. I get sections smoothed on one side; they are said to be sawed; then why are they smooth on one side, and not on the other? I run saws and cannot get one that will cut smooth enough for me.

[That is easily accounted for. The manufacturer gets stuff of double thickness, planed on both sides, and then saws it in two, leaving one side smooth; the other remaining as the saw leaves it.—Ed.]

The Bees in Northwestern Missouri.—J. G. Graham, Agency, Mo., on Feb. 18, 1888, writes:

We have over 100 bee-keepers, with about 1,000 colonies of bees, in this county, and many bee-keepers are using improved hives with all the modern appliances in their apiaries; but our bee-keepers are mostly farmers, and not writers, hence we do not hear from them very often.

Our honey crop was very short last year; Alsike clover and linden only, yielding any surplus, and we have but little Alsike. As Alsike blooms before linden, our honey was unmixed, and the quality was very fine.

Bees are wintering well (according to reports received so far), having had several flights since Jan. 1; my Syrians have already commenced brood-rearing, and everything promises well so far, for another season. Bee-keepers are enthusiastic in their talk about making our display at the Exposition next fall to outstrip our last; but time will tell better what we will do.

Trying Time to Come.—Edwin Hutchinson, East Avon, N. Y., on Feb. 21, 1888, says:

I had packed on the summer stands 84 colonies of bees in the fall of 1887. They flew from every hive yesterday, and seemed to be in good condition. But the trying time is to come—the month of March and the first half of April.

Drone-Laying Queens.—M. W. W. asks the following questions:

I have 2 queens, and about every thirty-sixth bee that hatches out, is a drone. I now have drones hatching out. What is the cause? Would it not be better to supersede the queens? They are mother and daughter.

[The queens are useless, and should be superseded as soon as practicable.—Ed.]

White Clover and Weak Colonies.—W. B. Thorne, Glenn, Kans., on Feb. 21, 1888, writes:

One would think from the many predictions, without investigation, that the coming honey crop would be large; but in those States where the severe drouth prevailed last summer, and where they depend upon white clover as the principal honey source, there will probably be disappointment. The older plants of white clover are almost entirely dead, and the dependence must rest upon the young growth, which, unless it be an extraordinary season, will not do to depend upon; and, no doubt, many will find their colonies in a weak condition, from the fact that the bees were old before going into winter quarters. All these facts before us, cause us to have more or less misgivings, and if I get an average of 35 pounds per colony, I will be content. A half-loaf is better than the past year's nothing.

Affiliated Bee-Associations, etc.—R. F. Holtermann, Brantford, Ont., on Feb. 11, 1888, says:

The Brantford Bee-Keepers' Association, at a meeting on Feb. 4, applied for affiliation with the Ontario Association. They are the first to take this step, and I had the honor to be the first to propose such a scheme (affiliation of county associations with the Ontario) in Canada. Reports show that bees are wintering well so far. Those wintering outside should soon have a flight. It was about 17° below zero yesterday.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck; 20 cents per lb.—by express or freight.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered very soon. We are promised an early spring, and a good honey crop.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2 25
500 Labels	2 00	3.00	3 50
1,000 Labels	3 00	4.00	5.00

☞ Samples mailed free, upon application.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Honey and Beeswax Market.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 23c.
Feb. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 15@18c.; the same in 2-lbs., 13@15c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c.; dark, 5½@6c. Market dull.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Feb. 21. 28 & 30 W. Broadway, near Duane St

CINCINNATI

HONEY.—We quote extracted at 4@9c. per lb. Choice comb, 16@20c., in the jobbing way. Demand fair and supply good.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Feb. 20. C. F. MUTH & SON, Freeman & Central Av.

BOSTON

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@15c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Feb. 18. BLAKE & KIPLEY, 57 Chatham Street.

DENVER.

HONEY.—Best white 1-lb. sections, 19@20c.; 2-lb. sections, 16@18c. Extracted, 8@10c.
BEESWAX.—20@ 3c.
Feb. 18. J. M. CLARK & CO., 1409 Fifteenth St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 13@16c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.
BEESWAX.—20@24c.
Feb. 18. SCHACHT & LEMCKE, 122-124 Davis St.

DETROIT.

HONEY.—Best white in 1-pound sections, 17@19c. Extracted, 9@10c. for light colored. Market weaker and supply only fair.
BEESWAX.—22@23c.
Feb. 17. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections; 2-lbs. or about, 14@15c. Dark is slow of sale, with no steady price. Extracted moving slowly. Offerings of all kinds are large. Demand better.
BEESWAX.—22@23c. R. A. BURNETT,
Feb. 16. 161 South Water St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c. unglassed, 16c.; white 2-lbs., glassed, 16c.,; unglassed 2-lbs., 17c. California white 2-lbs, 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Feb. 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 18@19c.; 2-lbs., 15@16c. 3-lbs., 14@15c. Dark and broken not quotable. Extracted, white in kegs and tin, 9@9½c.; ½-barrels and barrels, 8½@9c.; dark and mixed in same, 6@7c. Market slow; better demand expected.
BEESWAX.—22@25c.
Feb. 2. A. V. BISHOP, 142 W. Water St.

Advertisements.

FOUNDATION MOLDS made of Plaster of Paris, for making Foundation, $3.50, Langstroth size. Pure Italian QUEENS, untested, $1.00 each, in season.
9A1t **JOHN FARIS, Town House, Va.**

ITALIAN BEES and QUEENS.

ONE Untested Queen, $1.00; 3 for $2.00. BEES by the Pound and Nucleus. Send for Price-List.
Address, **H. G. FRAME,**
9D13t **North Manchester, Ind.**

For Sale or Exchange,

ITALIAN (or a Cross of Italian, Albino and Cyprians) **Bees and Queens** by the Full Colony, Nucleus, and by the Pound. **Books and Supplies** for Bee-Keepers.
Address, **OTTO KLEINOW,**
9Dtf (Opp Ft. Wayne Gate), DETROIT, MICH.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. March 7, 1888. No. 10.

EDITORIAL BUZZINGS.

HONEY-DEW.

There are many golden sweets
In the sunny soul's retreats
Which are not from the flowers of our planting nor care;
But are oft heaven-willed,
And in mercy distilled,
Though the others our heart's had been panting to share.
—*Eugene Secor.*

Connersville, Ind., has passed an ordinance prohibiting the keeping of bees within its corporate limits, declaring the keeping of bees a nuisance! What are we coming to?

The Value of the Honey imported into Great Britain during the month of January was £465, about $2.300. The value of the honey imported from the United States of America during the year 1886 into Great Britain, amounted to the grand sum of £27,107, or $135,000.

Canadians are laboring with the railroads for a new classification of honey. That is what we need, also. There the postage on seeds is 4 cents per pound; in England it is 6 cents, but in the United States the outrageous tariff collected is 16 cents per pound!

Cod Liver Oil and Honey.—The former is very disagreeable to take alone, and honey cannot be mixed with the oil, unless there is an addition of some acid. An exchange gives the following formula to make cod-liver oil a pleasant medicine, for it is a great help in chest affections:

Take one-half pound each of cod-liver oil and extracted honey, add the juice of two lemons, and shake it until it is thoroughly mixed. It will be found a pleasant as well as a beneficial medicine.

Gathering Statistics.—The following, dated March 1, 1888, is received from Prof A. J. Cook, who desires its immediate insertion:

Soon after returning from the convention at Chicago, I wrote very fully to the Commissioner of Agriculture, and gave my letter to President Willits, who was to visit Washington, and asked him to press the matter personally, which he kindly consented to do. He wrote me from Washington that the head of the Department promised all possible aid, and asked that we should suggest how he could best serve us.

The Commissioner has also communicated with Dr. A. B. Mason, as published on page 132, and again asks for aid.

The committee, consisting of Dr. A. B. Mason, Mr. Thos. G. Newman, and myself, suggest that the bee-keepers all through the United States, write at once to Mr. Thos. G. Newman, and offer service as reporters of statistics.

The Commissioner wishes two for each county. While we can hardly hope for so much at first, the nearer we approximate to it, the more value we shall receive. Let every bee-keeper, then, proffer service at once. Then the committee can select by lot, or otherwise, from counties where more than two offer. Surely, bee-keepers will be prompt and generous. We ought to have a good corps of correspondents from each State, and one at least from each county in those States where bee-keeping is an important industry.

The Commissioner will send out blanks to fill out. The nature of these, as to how the bees wintered; what per cent. of a full crop of light honey in June and July was secured in your section? What per cent. of a full crop of autumn honey did you secure? What plants are valuable in your section? etc., will be considered later by the committee. Now for volunteer reporters! BY ORDER OF COMMITTEE.

☞ Will other bee-papers please copy?—A. J. COOK.

Mr. J. F. Dunn, of Ridgeway, Ont., on March 1, writes thus:

I believe that the plan you give on page 131, for collecting statistics of bee-keeping is the only one by which we can find out *exactly* all about the honey industry in this country. Just five hours before your JOURNAL came to hand, I mailed a communication to the *Canadian Bee Journal* (which I presume will be published in the next issue), detailing a plan substantially the same as the one you give. I send you this explanation that you may not think I wrote the article after seeing yours.

The bees had a flight on Feb. 24, after a confinement of 83 days. The winter has been favorable for the clover as well as the bees, and as a good season very often follows a poor one, we may expect a prosperous year.

We deemed that plan the best, but the time is now too late for it to be adopted this year—there being so much "red tape" to encounter at Washington. And again, each State has the arranging of its own method of assessing; and we may not get our plan adopted for some years. Meanwhile, the plan suggested by the committee may as well be faithfully tried, and if it is "found wanting," then the plan we suggested may by that time be "in working order;" for the methods are for different objects, and do not clash.

We are Glad to state that Mr. W. Z. Hutchinson is improving, and the *Review* for February will now soon appear.

Mrs. Cotton's annual circular for 1888 is sent us by Mr. C. W. McKown, of Knox Co., Ills., who remarks that she is "still hunting for green-horns, who are too penurious to take a reliable bee-periodical." On the envelope, Mrs. Cotton prints this attractive paragraph:

Every one who has a Farm or Garden can keep Bees on my plan with PROFIT. I have received one hundred dollars profit from the sale of Box-Honey from ONE Hive of Bees in one year.

So every one who buys her drawings, book and bees, expects a profit of $100 on each hive of bees, for which she charges $20, three times its value, or more. Such do the pursuit much harm by raising the expectation, and then landing the would-be apiarist in "blasted hopes."

The Chicago Academy of Sciences held a special meeting on Feb. 28, 1888, when Mr. N. W. McLain, Apicultural Agent of the Division of Entomology, Department of Agriculture of the United States, delivered an address on "The Anatomy and Physiological Development of the Honey-Bee," illustrated by charts and drawings. The lecture was very interesting, and the members of the Academy kept Mr. McLain busy answering questions for over an hour after the conclusion of the address, upon the habits and instincts of bees. A vote of thanks for the very interesting address concluded the exercises.

Cork-Dust for Winter Packing.—In answer to inquiries received since the reply we gave to Mr. Howe, on page 99, we desire to say that ground cork, or "cork-dust," as it is called by fruit-men, cannot be obtained of any manufacturer or wholesale dealer—but the retail dealers, who obtain imported fruit in original packages, are usually glad to sell the "cork-dust" at 25 cents per bushel.

Bees are wintering finely, is the general remark from all parts of the country, from Maine to Colorado, and from Canada to the Gulf of Mexico. Mr. T. F. Bingham, of Abronia, Mich., on Feb. 26, wrote thus: "My bees had a fine flight last week. They are all right—both in and out-of-doors. The season seems to open early, so far." The present indications point to an early spring.

It is with Pleasure we notice that Mr. Eugene Secor has just had the honor of being elected one of the trustees of the Iowa State Agricultural College. These are elected for six years, one from each congressional district, by the Legislature. We congratulate Mr. Secor on this new mark of the appreciation of the public.

One-Cent Wax-Cakes.—The Cera Manufacturing Company, of Catonsville, Md., is making a specialty of one-cent cakes of wax. It takes 72 pieces to make a pound. There is a good margin for profit.

GLEANS OF NEWS.

PERSECUTED AND IN JAIL.

Mr. Z. A. Clark, who has had daily trials and fines at Arkadelphia, is now in prison, for keeping bees in the corporate limits of that city. The following is a letter from one of his neighbors, with a donation of $5 sent to the National Bee-Keepers' Union, to aid in his defense. The letter will be read with interest. It is dated Feb. 24, 1888:

I am not a member of the Bee-Keepers' Union, but please find enclosed $5 for the fund for defraying the expenses of one who is now languishing in the city jail for violating a city ordinance of keeping bees in Arkadelphia, Ark. Mr. Z. A. Clark, whom I have known for about eight years, is an upright, civil, quiet, honest, hard-working man. No one stands higher here. He has been working hard to try and rise above poverty. He has a small home here, which is mortgaged. He has a wife, four little girls and a mother-in-law to care for.

I have been a resident here since 1858, and keep a few colonies of bees for pleasure and family use. I can afford to quit keeping bees, but Mr. Clark cannot without making a great sacrifice. The ordinance is an *outrage*, and is so considered here. Mr. Clark has several prominent attorneys, but is paying very dearly for the defense of his property and rights. I do not need any protection from the Bee-Keepers' Union, but some brother may fall by the wayside.

Send certificates of membership to the Union to five bee-keepers whom you may know to be worthy.

Mr. Clark has taken two appeals, and the third day when fined, refused to pay the fine and cost. He went to jail on the 23rd by the advice of his counsel.

S. A. RUDISILL.

We had just made out certificates for five bee-men who were not able to join the Union, but wanted to become members, when we received another letter in the same mail from England, signed "APIS," with another $5 for the Union. This we treated in the same way, and made out five more certificates of membership, and sent to would-be members who could not afford to join the Union.

We also received the following from Mr. Clark, written in prison on Feb. 24, 1888:

I am in trouble, and in jail also. I have had three trials in three days, in succession. I appealed the two first trials, and came to jail yesterday. I am to be arraigned again to-day at 2 o'clock. My attorneys have claimed trial by jury each day, but it has been refused by the Mayor each day. I am somewhat unwell to-day.

I received a letter from the Hon. Sam W. Williams, our attorney in Little Rock, Ark., yesterday. He says that we are bound to win. I should be greatly relieved if I knew that he could be secured to come here and defend this case at the Circuit Court in July. It will cost $250.00, but if I knew for certain that he would be here, I should be quite satisfied.

P. S.—3 p.m.—Just had another farce trial, and was denied right of trial by jury. Plead not guilty, and was fined by his Honor. I appealed it, and will have another to-morrow. Z. A. CLARK.

The Manager of the Union had already sent Mr. Clark $25 to assist in the local defense, and $25 to Hon. Sam. W. Williams, the most noted attorney in the State of Arkansas, as a retaining fee. He will now take hold of the case, and by the aid of the Union will win it—at least we confidently hope so. His fees are $250.00.

On the second day in prison Mr. Clark wrote us as follows:

ARKADELPHIA, Ark., Feb. 25, 1888.

FRIEND NEWMAN:—Yours of the 23rd with $25 from the Union for local defense, is received. I also had the BEE JOURNAL poked through a crack to me on the eve of my first incarceration. The first thing I read was the letter of the Virginia friend, Mr. J. Few Brown, accompanying his enclosure to the Union defense fund. It cheered me, and made my heart rebound with joy.

I was arraigned again yesterday at 2 p.m., claimed right of trial by jury, was refused, plead not guilty, and a fine of $8 was imposed upon me. Z. A. CLARK.

Knowing that this senseless opposition to bee-keeping will spread like wild-fire if not successfully resisted, the Union has decided to make a lively fight in this case, and measure swords with the enemy, fully realizing that it would be very detrimental to the pursuit to allow a decision against bee-keeping to be put upon record on the plea of its being a "nuisance."

Mr. William Anderson, of Sherman, Mo., writes thus concerning this case and its importance to the bee-fraternity:

The day seems fast approaching when the bee-keepers will have to get a license. If we let the case go undefended, we shall hasten that day. Let us fight it, and if the Union has not funds enough, let it call for an extra dollar from each member. I was in favor of reducing the fees to join the Union, but I am now in favor of assessing its members to carry out its designs. We should fight this case, for every such suit we lose we are, as an organized body, that much weakened. Brother bee-keepers, let us defend a brother in trouble. The idea of bees eating up ducks and peaches! I believe that bee-men should try to hold up our banner, and support our order. Do not let us lose this suit. Now is the time for us all to prove our devotion to our pursuit.

The Little Rock, Ark., *Press* of Feb. 24, thus discusses the topic under consideration:

The town council lately passed an ordinance making it unlawful to keep bees within the corporate limits of Arkadelphia. Mr. Clark, who is said to be a good citizen, an active prohibitionist, and an earnest member of the Presbyterian church, continued to encourage the producing of honey, and was arrested, brought before the Mayor and fined $5. He refused to pay the fine, and the Marshal took him to the calaboose. Further legal proceedings are expected; but at the present time the bees are still doing business at the old stand. Mr. Clark is one of the most respected citizens of Arkadelphia, and will make a stubborn defense of his business.

Mr. Clark wrote thus from jail on Feb. 28, 1888:

We are having a trial every day, claiming trial by jury, etc. Yesterday we filed an affidavit signed by myself and two of our best and foremost citizens, setting forth that the Mayor was prejudiced and would not give us a fair and impartial trial, etc.; all of which has been overruled by the Mayor. We must gain this case, and not go upon record as upholding and keeping a nuisance within city limits, etc. My nearest neighbors—some of whom have lived by me for 7 and 8 years—will swear positively that my bees are not a nuisance, and that bee-keeping in Arkadelphia is not a nuisance.

A NEW INVENTION.

The Rev. T. H. Dahl, of Stoughton, Wis., writes thus concerning a new invention:

In the last number of *Tidsskrift for Biskjotsel*, the editor, Mr. Ivar S. Young, of Christiania, Norway, mentions a new invention by a German teacher, Mr. Koerbs. It is nothing less than the manufacturing of honey combs. What? Honey combs? Are we not rid of that "Wiley lie" yet. Does it even come from Europe? Oh! Let us take it easy! That new kind of wax-comb is not intended at all for table use. It can only be used for extracting purposes, but in that respect, it is claimed to be excellent. The bees deposit honey in its cells with the same willingness as in their natural comb; but they do not use it for pollen, and the queen never puts an egg in its cells. If this new kind of comb is what they claim it to be, a new era is at hand in the extracting business. We expect to hear something more about it, and when we do, the readers of the AMERICAN BEE JOURNAL will be kept posted.

We fear there is something about it not exactly reliable. Mr. Koerbs will not divulge the secret of its manufacture and use at present. He simply wants apiarists to "Look out for the engine when the bell rings," we suppose.

He intends to issue a pamphlet describing the process of manufacture, and the uses to which it may be put. To take orders for the pamphlet at 40 cents each, and when he has several thousands of such subcribers, then he will mail a copy to each, on the same day. In this we think Mr. Koerbs will be sadly disappointed. Americans will not nibble at that bait! As we understand it, the peculiarity of this invention lies in the fact as stated, that the comb mid-rib (not finished cells) will not be used by the queen for breeding, even if it is inserted in the brood-nest.

These combs are made of pure beeswax, by means of the Rietsche press, and are for use only for extracting purposes, which it is claimed is done in one-half the time now required to extract the honey from a comb.

Our friend, C. J. H. Gravenhorst, editor of the *Bienen Zeitung*, has seen the invention, and the combs "completed by the bees," and predicts a "revolution" in the matter of bee-comb, even if the invention accomplishes but one-half of what is claimed by Mr. Koerbs.

Bee-keepers will be apt to "look with suspicion upon the method employed to make the invention known," as remarked by the *British Bee Journal*, whose editor asks: "Why does not Mr. Koerbs sell his invention to some foundation manufacturer, and introduce it in that way? or, take out a patent and charge a small royalty?"

We shall watch this matter closely, and keep our readers posted concerning its advent and revelation—and ring the bell just in time for all to witness the arrival of the locomotive!

It is possible that this "invention" may turn out to be the construction of comb foundation having the base of larger cells than even drone-cells, which would be avoided by the queen, and used by the workers for store comb.

SUNDRY QUERIES.

Heat and Cold Endurable by Bees.—David Craig, Macleay, Oreg., asks the following questions:

1. How long can hatching brood, larvæ and eggs, be exposed to a low temperature without injuring or killing them? 2. How long can they be exposed to extreme heat without being injured or killed? State the extremes of temperature that they can endure.

Mr. N. W. McLain, by request, answers thus:

1. Eggs and uncapped larvæ cannot be exposed to a low temperature without injury. The length of exposure and the degree of temperature will determine the degree of injury. When it is too cold for the adult bees to fly with freedom, exposure of the brood is injurious, and often fatal.

2. If queen larvæ be exposed to extreme heat for two hours, they die. The range of temperature to which queen larvæ may be subjected, and still live, is from 60° to 98° Fahr. The normal temperature for queen-rearing is from 85° to 92° Fahr., *in the hive.* Worker larvæ can endure a temperature of 112° Fahr. *in the hive*, and a colony of normal strength do not allow the temperature to exceed that degree, even when the mercury is indicating 124° Fahr. outside of the hive.

Frequent Flights for Bees.—B. F. Barb, Joetta, Ills., on Feb. 22, 1888, writes:

Bees are wintering well so far, especially those that have plenty of stores. They have had a good flight every month this winter, and this month they have had more than one.

1. Why is it, that a part of my bees, when they come out on a warm day for a flight, will pull and fuss over each other as if they were fighting? I have seen them doing so in the summer time, but I thought that they were fixing up the young bees.

2. Do bees act the same in winter as in the summer, when they are queenless?

3. What time in the spring does the queen generally begin to lay eggs, in this locality, on the summer stands?

4. If a colony becomes queenless in the winter, should I give them some of the first eggs that are laid in the spring?

By request, Mr. N. W. McLain answers as follows:

1. Evidently the bees were trying to rob each other; the bottom-boards should be cleansed, and the entrances contracted.

2. The loss of the queen in winter has commonly a more demoralizing effect on the colony than in summer. The chance for repairing the loss is the measure of the apprehension and disquietude manifested.

3. That depends upon the season, the strength of the colony, and the race of bees. Under the conditions you mention, I should say very early in the spring. Caucasians begin breeding later than Italians, Syrians, etc., but they breed rapidly after beginning.

4. My practice would be to use the bees from queenless colonies in strengthening the weaker colonies in the apiary, in the early part of the season. Two strong colonies are more efficient for any purpose than three weak ones.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

BIOGRAPHICAL.

THE LATE ARTHUR TODD.

The death of this prominent apiarist was noted on page 115, and a further biographical account promised. Mr. Todd traveled extensively in England, Germany, France, Switzerland and Italy, and also in Algeria in Africa, and was personally known to many of the prominent apiarists of those countries. He was intimate with Mr. De Layens, the noted French apiarist and author.

Mr. John Shallcross, of Philadelphia, has furnished the following biographical items of interest for publication, and also a photograph from which we have made the engraving which is presented herewith:

Arthur Todd, a prominent bee-keeper of Pennsylvania, died at his residence, 2122 N. Front Street, Philadelphia, Pa., on Saturday, Feb. 11, 1888, of typhoid-pneumonia.

MR. ARTHUR TODD.

Mr. Todd was born at Sandymount, near Dublin, Ireland, on Feb. 25, 1843. Prior to 1873 he was engaged in the dry-goods business, as general manager, in London, for the Dublin firm of Pine Bros. & Co., and at one time traveled through this country in their interests.

About 1870 he became interested in bee-culture, and subsequently made a tour through Europe, visiting the principal apiaries, and forming acquaintance with several prominent apiarists, with whom he kept up correspondence until the time of his death.

In 1877 he gave up his business in London, and went to Blidah, Algeria, to establish himself in the business of bee-keeping and the furnishing of apiarian supplies.

In 1878 he attended the Paris Exposition in the interests of the Algerian bee-keepers, and was awarded the large diploma. After the Exposition he removed to Rambouillet, in France, where he pursued his favorite avocation with considerable success. In the following year he took the "gold medal" at the Ville de Beuvais Exposition, and two "silver medals" at the Amiens Exhibition.

In 1880 he came to America for a permanent residence. He joined the Philadelphia Bee-Keepers' Association, and was its Vice-President for the years 1884-85. His large experience and his intelligent discussion of all bee-questions, added much to the interest of the meetings. He was, at the time of his decease, a member of the New York State Bee-Keepers' Association, and was Vice-President, for Pennsylvania, of the Northeastern New York Bee-Keepers' Association.

From 1884 to 1887 Mr. Todd made large displays of bees, hives, honey and implements at the Pennsylvania State Agricultural Exhibition. His enterprise was rewarded with eleven silver and bronze medals, besides diplomas and cash prizes.

At the Burlington County Agricultural Fair, at Mount Holly, N. J., in 1886, he was awarded a medal for honey manufactures. During the same year he established a small public apiary at the Philadelphia Zoological Gardens in Fairmount Park.

Mr. Todd was a Fellow of the Royal Geographical Society, and an Associate of King's College, London. He was a careful student of modern apiculture, and well-informed upon everything pertainiug to the history and management of bees. For the last four years he labored hard to open a profitable honey market in Philadelphia, but did not meet with the full success that his zeal and energy deserved. His loss to the Philadelphia Bee-Keepers' Association will be much felt.

How to Sell Honey.—M. M. Baldridge, of St. Charles, Ills., on Feb. 25, 1888, wrote as follows:

I do not find it necessary to sell extracted honey, when it is a choice article, to consumers, for less than 24 cents per pound, and could get a higher figure if I should try. It is but little trouble to convince the average consumer that liquid houey is really worth from 3 to 5 cents per pound more than the same would be, when added to the wax and wood. This fact can be easily comprehended by consumers, and no other will be volunteered by any one who understands the art of selling extracted honey properly.

Selling honey is a profession, and Bro. B. is a *professional.*

Why Advertise in the AMERICAN BEE JOURNAL? Here are some good reasons:

1. Because it has a large and influential circulation in every State and Territory, Canada, and other foreign countries.

2. Because it is well-printed, and an advertisement in it appears neat and attractive, and invites a reading.

3. Because it reaches just the class of persons desired—professional men, lawyers, doctors,and the best of the rural population.

4. The rates are low as possible, and the returns from advertisements are satisfactory.

New Catalogues for 1888 are on our desk, from the following persons:

Martin & Macy, North Manchester, Ind.—24 pages—Poultry and Bees.

Lewis Roesch, Fredonia, N. Y.—16 pages—Grapevines, Small Fruit Plants, etc.

E. C. Jordan, Jordan's Springs, Va.—24 pages—White Sulphur Springs.

Wm. Hoyt, Ripley, Maine—22 pages—Bee-Keepers' Asvertiser No. 1—Apiarian Supplies.

QUERIES AND REPLIES.

PRACTICAL QUEEN-EXCLUDING HONEY-BOARDS.

Written for the American Bee Journal

Query 521.—Which is the best queen-excluding honey-board for *practical* use—one with wooden slats and strips of perforated zinc, alternate, or one made of full sheets of zinc the size of the hive? State why you prefer the one or the other.—Kentucky.

Full sheets of zinc. They give the bees more room to pass through.—M. MAHIN.

Wood and zinc combined, because of greater firmness.—EUGENE SECOR.

I prefer the full sheets of zinc, because it has more perforations, and is less in the way of the bees.—P. L. VIALLON.

I think that one with wooden slats is entirely better than either. The reasons are, cheapness combined with utility.—MRS. L. HARRISON.

I prefer the one with wooden slats and strips of perforated zinc. Full sheets are too liable to get out of shape.—J. P. H. BROWN.

I prefer the former, for the reason that it makes a much more substantial board, and is just as good in every other way.—G. M. DOOLITTLE.

The first mentioned is the best, because more rigid, and so more durable; and also because it is cheaper.—R. L. TAYLOR.

I have never used the wooden-slat honey-board. Zinc queen-excluders, the full size of the hive inside, answers all purpose.—J. M. HAMBAUGH.

For practical use, I prefer the wood and zinc. It is much easier to remove from the hive than are zinc queen-excluders, and keeps its shape better.—H. D. CUTTING.

I prefer that with wooden slats, because it keeps its shape and place better.—C. C. MILLER.

Some say one, and some the other; I have used both, and find but little difference if any in results. I think that the zinc sheets are preferable.—J. E. POND.

Wood and zinc, slatted. It has rigidity, thus keeping the bee-spaces exact, while the metal is thin and offers the least difficulty to the passage of bees; besides the openings are always exact.—W. Z. HUTCHINSON.

I prefer the full sheets of zinc with a wood rim. Practically, there would be but little difference in the results obtained from the use of the one or the other. The slat honey-board necessarily has an uneven face, and this induces the bees to build "bits of comb" between the top-bars of the brood-frames and the board, and the slats hide this from the eyes of the apiarist, and the board must be ripped off when it is to be removed. The sheet of zinc is perforated all over its surface, through which you can see the "bits of comb," and the sheet will spring when you raise one side, and will admit a knife-blade to sever the "studs" of wax.—G. W. DEMAREE.

I perfer the first, as they answer so well as a double bee-space arrangement. The Heddon honey-board, with the zinc between the slats, I consider a wonderful acquisition to any apiary.—A. J. COOK.

The combined zinc strips and wood slats by all means. The reason is this: The honey-board made as above is substantial and strong, and will not warp, twist or get out of shape. Further, the break-joint principle can be easily and perfectly maintained with the combined honey-board.—JAMES HEDDON.

I find that wooden slats properly spaced please me best. If I were to use perforated metal, it would be in combination with wood. This method of making queen-excluders is doubtless well understood. I *prefer* wood to metal, because it does not *scrape* the laden bees as they pass.—J. M. SHUCK.

I must say that I do not know. I am experimenting with a half-dozen different devices, for excluding the queen from the section-cases. I am using a Heddon honey-board with slats only 3-16 of an inch apart, and it works very nicely. It is very difficult, however, to have the slats just right, and keep them so. To make the matter perfectly certain, *I think* that a full sheet of the perforated zinc is best.—C. H. DIBBERN.

The one with wooden slats and strips of perforated zinc is the best, but the strips of zinc should have two rows of perforations instead of one row. The strips should be only ¾-inch wide, and be let into the slats a little less than ⅛ of an inch. Then the two rows of perforations leave little zinc, and come so near the wood as to secure foot-hold to the bees in passing through the zinc, when, if the perforation are of a proper size, they are positively no hindrance to the workers. With full sheets of perforated zinc, it is only by a struggle that the bees can get through, and hence, they are a hindrance to the bees; and the same is true of the wood-and-zinc board if the perforations are too far from the wood. Again, the full sheets are more or less uneven, will sag, and be bound down to a great extent, while the wood-and-zinc board is almost free from these objections.—G. L. TINKER.

The honey-board made of perforated zinc alternated between wooden slats is very preferable, because it can be more readily and conveniently handled; will keep in better shape and condition; and is stiffer and straighter. Full sheets of zinc will very often curl and bulge, the zinc being very sensitive to our ever-changing climate and temperature.—THE EDITOR.

THE RESULTS CLAIMED FOR REVERSIBLE FRAMES.

Written for the American Bee Journal

Query 522.—Do reversible frames produce the results claimed for them, by causing the bees (when the frames are reversed) to place the honey in the sections?—Rhode Island.

Not according to my experience.—P. L. VIALLON.

I cannot speak from experience, but I think they do.—MRS. L. HARRISON.

If the frames have brood in them down to the bottom, reversing, with uncapping, will.—A. B. MASON.

I do not know; I have never used them, and have no desire to try them.—M. MAHIN.

If the conditions are just right, it will in many cases.—H. D. CUTTING.

They certainly aid, if I can see straight.—A. J. COOK.

I presume that they generally do, but not always.—C. C. MILLER.

Yes, they cause the bees to remove the honey from below to above, as a rule.—DADANT & SON.

I think that the reversing of frames for this purpose has been largely abandoned at the present time.—G. M. DOOLITTLE.

Yes, at certain times, and under the right conditions, all of which have been explained before.—W. Z. HUTCHINSON.

I answer this question in the style of the quack doctor, when called to testify in a case of poisoning: "They *'mou't,'* and then, they *'moutn't.'*"—J.P. H. BROWN.

Not in a practical way. I mean to say that the plan does not work uniformly, and if it did, there would be nothing gained by it in the long run.—G. W. DEMAREE.

If the honey is sealed, I think that the bees seldom disturb it. If thin and uncapped, the probability is they will remove it.—EUGENE SECOR.

I do not practice reversing, but the result claimed would undoubtedly follow if the reversing were done at the proper time.—R. L. TAYLOR.

The theory is, stores above, and brood beneath. Of course, should the frames be reversed, the honey will be carried above the brood; more especially, should the honey be close to the bottom-board and entrance.—J. M. HAMBAUGH.

I would not use reversible frames, simply, "too many bites to the cherry." Manipulation in bulk lessens the work of the apiary. Inversion does not prevent swarming, and does not always cause the honey to be "carried up-stairs," but by it a colony can be kept up to fighting and storing strength more perfectly than by any other one plan that I am acquainted with—J. M. SHUCK.

There are times that bees will remove sealed honey from the brood-combs to the super without reversing the combs. My present opinion is, that the laying of the queen, and the state of the honey-flow, has more to do with it than the reversing of combs.—G. L. TINKER.

It is well known that I am an opponent of reversible frames, and for that reason my answer may be taken by some as an attempt to bolster up my opinion. I believe, however, that the results claimed for reversing frames, can be accomplished easier and better, and far more economically, in another way. Any answer to the above query is an opinion, only.—J. E. POND.

Yes, to a considerable extent, especially if the frames are deep. I had expected to test this matter during the past season, but owing to the failure of the honey crop, I could not do so. I *think that reversing* the frames or hives, a little before the honey season closes, is an advantage.—C. H. DIBBERN.

I do not know all that may have been claimed for reversible frames. They do cause the bees to carry the honey into the surplus sections when reversed at the proper time. They are worth much more than their extra cost, because you can keep them at all times full of comb, leaving no lurking places for bees. I would no more go back to non-reversible frames, whether suspended or otherwise, than I would dispose of my spring-bed and adopt the old cord and auger-hole system.—JAMES HEDDON.

If the frames are reversed at the right time, the bees will doubtless carry the honey into the sections, but I doubt the expediency, in general, of the reversing system. While it may be advantageous at some times, and under some conditions, there are many serious objections to it—but it is unnecessary to enumerate them here.—THE EDITOR.

CORRESPONDENCE.

BEE-ANATOMY.

Evolution and the Glands in Bees.

Written for the American Bee Journal
BY PROF. A. J. COOK.

I gladly reply to Dr. J. A. Proctor's letter on page 124, even if I have received such a "shaking up" from Mr. Pringle, in the *Canadian Bee Journal*. The truth is, I do not relish being reviewed in another paper with disparaging remarks, in which case all readers have to take the critic's version, and cannot judge for themselves. Still I care not much. In all such cases I remember the stanza,

"Ever the right comes uppermost,
Ever is justice done."

Mr. Pringle misjudged me utterly. I did not back down because I was replying to a lady. As to evolution, as Prof. Le Conte well says, it is so probable in the light of recent research, that it is as irrational to talk of an evolutionist as of a gravitationist.

That all rudimentary organs are remains of once useful ones, is not true. The rudimentary milk-glands in male mammals is an example. These structures are explained in other ways, not necessary to explain in a bee-paper. While I have the most profound respect for ladies, and would, I hope, be ever respectful and deferential towards them, I would never quibble or misstate knowingly, even in controversy with a woman. I assure Mr. Pringle that evolution needs no advocacy of error to hold it up; it can stand on truth's platform.

The glands I refer to as useful in providing food for larval bees and the queen, are large glands in the head of the bee. They are in the form of a compound leaf with very small leaflets. The fact that these glands, as mere rudiments, exist in the queen, would argue, not prove, that they were once useful organs in the queen. We positively know that the queen bumble-bee in early spring does feed the larvæ; indeed, at this time there are no worker-bees in the nest, and at this time these glands are large and active in the queen.

By the study of fossil animals, of embriology or the development of the young animal before birth, zoologists are convinced fully that higher animals have arisen from the lower; often the intermediate forms, as in the horse, snakes, and many other animals, have been found. Such proofs are so abundant that the intelligent student is convinced. The fact that abortive organs, like the splint-bones of the horse, are found in all stages, argues loudly for evolution. Thus the abortive glands in the queen, in the light of cognate facts in other animals, suggests that the queen-bee was once able to feed the larvæ, when doubtless she was less prolific than now.

The honey-bee is the highest product of progressive development in the bee-family. Early in the rocks we find no fossil bees—indeed bees are the latest to appear; and from their complex structure we should expect this. As they have developed from a lower condition, they have advanced beyond others, and the queen has been set apart, and in the economy of their lives, has nought to do but lay eggs, and so, of course, she lays far more.

Some queen bumble-bees are now more prolific than others, and so they have more workers, and thus have less to do; thus they constantly tend to increase in prolificness.

The strongest argument as to snakes' legs comes from the study of fossils. Snakes, like animals, are found with legs. Snakes are very late to appear in the rocks. Though they are the lowest of reptiles, yet they were the last of all reptiles to appear, as geology clearly shows. The loss of their legs is a case of retrograde development.

This is too large a subject for a short article, and requires more space than is proper here. I would advise all who are interested in the subject, to procure Le Conte's work on evolution. This author is a Christian gentleman, no less than one of our distinguished scientists. Like the late Dr. Gray, he is a grand exemplification of Christ in the heart and life. At the same time, he is a master in science.

Agricultural College, Mich.

WINTERING BEES.

Cellar-Wintering and Insurance of Bees.

Written for the American Bee Journal
BY MRS. EMMA HULETT.

The past season was the poorest for honey that I ever have seen. I commenced the spring with 60 fair colonies, and increased them to 97 of the strongest colonies (both in bees and in honey) that we ever put into winter quarters. I never hived larger or stronger swarms than those of last season, and up to the present time my bees are wintering splendidly in the cellar or house, built above ground, 18x24 feet, and with sawdust filling of 22 inches. The bottom is dry and

dusty, and the hives and walls are as dry as when taken in, on Oct. 1, 1887. I have visited them only twice since then, and I found the temperature at 40°, the same as when they were put in.

The water was dripping from the upper ventilator into the tile sub-earth ventilator below, and on frosty and cold mornings the vapor may be seen escaping from the outside ventilator like smoke from a chimney. The winter was quite mild until Jan 1, and since then it has been quite severe, with considerable zero weather, and some sudden changes, which affects out-door wintering of bees. But of course from now on will be the "nip and tuck" with bees.

After 9 years of cellar or in-door wintering of bees, I concluded that such wintering is best; I believe that it will yet attain perfection, and that our pets will be wintered as easily as they are summered. By giving to the latest swarms, and also to the old colonies that did swarm, the extracting combs, they were nicely cared for, as to food of a nice article.

The demand for honey here is good, with none to supply it; but with hope for a good season to come this year.

Insuring Colonies of Bees.

In regard to insuring bees, I wish to say that I have insurance on the bee-house and honey-house attached, on all the implements, and $5.00 per colony in the bee-house, or within 100 feet from the building, outside, if destroyed or damaged by fire from the burning of the building.

Our bees are situated between two main traveled roads; the hives all face to the centre of the bee-yard, and quite near to the road traveled the most, as it is the main line to the railroad and to town, but being fenced, and quite an ascent, it elevates them above all pedestrians, and we have never had any trouble or any complaints. As for our neighbors, we keep them, or their tempers, sweetened up with an occasional section of honey, which has never failed to conquer the most obstinate with us.

We combine blacksmithing with our bees, which works well, as Mr. H. and I have two boys to help.

South Dayton, N. Y., Feb. 20, 1888.

[Insurance of bees against loss by fire, especially when in a cellar, is very difficult to obtain in the West. There are but few fire insurance companies that will take the risk. When such can be obtained, we think it ought to be done, for it is much easier to pay for the insurance than it is to stand the loss, in case of fire.—ED.]

NEW YORK.

The Third Day of the State Convention—Jan. 19.

Written for the American Bee Journal
BY G. H. KNICKERBOCKER.

The convention was called to order at 9:30 a.m. by President Clark. The Secretary then read an essay prepared by Mr. R. F. Holtermann, of Brantford, Ont., as follows, entitled,

Shading and Ventilating Hives, and Obtaining Extracted Honey.

In my experience, and the experience of the Germans in particular, shade and ventilation form no mean factor in securing a good honey crop. At the present time, where the price of a colony in the spring is no more than the price of the hive, its combs, and the number of pounds of stores required to winter the bees, to winter successfully and sell, is no gain; and to lose a colony is only a loss of the value of the stores consumed in winter. Therefore, every pound of honey we lose through increase, beyond what is absolutely necessary, is mismanagement. What we must aim at, is to manage our apiary in such a way that increase will be prevented by employing methods which will not diminish the honey yield.

There are methods recommended, and particularly so amongst beginners, which I hold are a positive waste of time and an injury to the colony. To break down queen-cells to prevent swarming is such a waste; to use perforated metal for this purpose is also a waste of time and material, and I incline to the opinion that to resort to any method to prevent swarming, after the bees have received the impulse, is also worthless; but I would not be positive about the latter, and leave the question with the convention.

What must we then aim at to prevent swarming, and how does it influence our honey yield? Prevent the very first step, namely, the impulse. How shall we do this? By shade and ventilation. I have at present, trees of such a height, and trained that the morning and late afternoon sun can strike the hive, and but little if any of the hot midday sun. I have ventilators in some of the bottom-boards, and the lids of the hives are raised at the back to permit a current of air passing over the quilt which lies upon the combs. I want a shade-board upon every hive, which shall be used with discretion.

The ground is covered with grass, carefully kept from growing sufficiently long to prevent ventilation at the entrance; earth and sand cause more radiation, especially the latter, and are very trying on men and bees. I want no high board-fence, to exclude every current of air from the yard.

Then I find if a colony is left beyond a certain stage without supers to store honey, and receives, even though not yet indicated, the swarming impulse, giving of room will generally not check this impulse, but they will swarm before filling such a super, and this must be carefully avoided. Give room as required. This can be done more easily whilst working for extracted honey than comb honey. I use the 8-frame Langstroth, and with good colonies and during a good flow I use two full supers, allowing honey always to ripen or be capped. The first super is raised and the second put between it and the brood-chamber.

I use perforated metal; care should be taken to have a bee-space on both sides of the board. From colonies not so good, extract four combs out of the super, leaving the remainder until ready, when they are extracted, leaving the first four, and so on. In this way I have been very successful in preventing much increase and securing a larger yield per colony than my neighbors. Last summer my strongest colony gave me 270 pounds of honey, with no attempt. I have thus far handled 25,000 pounds, and know what a vast difference there is in honey properly and improperly taken.

R. F. HOLTERMANN.

Ventilation of Bee-Repositories.

The "Ventilation of bees in winter repositories" was then taken up. Mr. P. H. Elwood read an essay on this subject, which was very attentively listened to, and showed that the author was thoroughly posted in every particular, and was a very close observer.

N. N. Betsinger—I have an improved method of wintering bees, by burying them. The ventilator that lets in fresh air is the same height as the ventilator that carries off the impure air; in this way I can maintain a more uniform temperature, and by the use of slides in the ventilators, the temperature can be kept from changing scarcely a degree from the time of putting them in, in the fall, until taking them out in the spring. I believe that bees can be wintered perfectly in this way, consume but very little honey, and not have a handful of dead bees from each hive.

Mr. Elwood—I believe that most of us err in having too much ventilation in our bee-repositories. When I left home, the ventilators of exit were all closed, and the entrance ventilator left open. From the best authority, I can conclude that the air which would be required by one person, is sufficient for 250 colonies of bees.

A. I. Root said that apiarists disagreed somewhat in regard to the dampness of cellars in which bees are kept. He had heard of some instances where springs of water in the cellar were thought to be very beneficial, by keeping an even temperature, and also aiding in ventilation.

It was thought by some that running water would help carry off the moisture in the atmosphere, and therefore aid in the successful wintering of the bees. It was generally conceded that the different kinds of soil had much to do with changing the condition of the cellar.

The report of the committee on drafting a "scheme" looking to the organization of an international association was taken from the table. Mr. Aspinwall, chairman of the committee, explained the object of the resolution. It was discussed at length by the members, the majority of whom were in favor of the exchange branch, but some thought the international association too large an undertaking.

Mr. Elwood advocated the interchange of reports of amount of crops, etc., and asked if the bee-industry was not of sufficient importance to warrant a demand being made on the Agricultural Department for a report of the condition of the honey crop, say, for instance, in May or June, as to how the bees have wintered, and in the fall how large the crop was.

Mr. Dickinson thought there would be too many obstacles in such a demand. He believed that but few of the bee-keepers would care to give such information. He suggested that the Secretary ask the Secretary of the North American Society to notify all the associations in the United States to send delegates to the next convention.

After further discussion the report of the committee, which had been declared adopted, was again brought before the convention by the reconsidering of the vote, and this time was referred back to the committee for revision. Mr. Elwood was added to the committee.

Bees for Business.

"The coming bee for business" was then considered as follows:

N. N. Betsinger—We will not have to wait for "the coming bee for business;" it already exists; it is a full-blood Italian queen mated with a black or brown German drone. I want only the first "cross," and if the Italian queens are bred up to a high standard of purity and excellence, the workers will all be three-banded.

Mr. Goodspeed and Mr. Knickerbocker had noticed the same thing very often, but said that it was a hard matter to get Italian queens that would do this every time.

Mr. Goodspeed said that many of his customers preferred the dark or leather-colored Italian queens for honey-producing purposes; but that some others thought that pure Italians were good enough for them.

The subject of Italian queens and the markings of the workers and drones was also discussed.

The special committee on re-organization then submitted the following revised report:

Your committee would suggest that this Association shall resolve itself into a honey producers' exchange, for the purpose of gathering statistics of the wintering of bees, and the honey crop throughout the United States.

Resolved, That the duties of the Secretary of this association shall be the forwarding of suitable blanks to reporters, which they shall return on the first days of May, June, July, August and September, from every honey-producing State; no State to have more than six reporters, who shall fill out the blanks and send them by return mail to the Secretary. He shall have the reports printed and mailed to members and the reporters, by the 10th of each month.

Resolved, That the Secretary keep an account of his time involved in this work, and report the same at the next convention. He shall be empowered to draw upon the treasurer for funds necessary to carry out the work.

After a short discussion the report was adopted.

Mr. Aspinwall volunteered to defray any deficiency that might be occasioned in carrying out the plan of the committee. A recess was then taken until 1:30 p.m.

AFTERNOON SESSION.

President Clark again called the convention to order at 1:30 p.m.

Votes of thanks were adopted to the proprietor of Briggs' Hotel for reduced rates; to the daily papers for publishing such good reports; to the apiarists of other States for attendance, and to Mr. Aspinwall for an offer to meet any deficiency in the Honey-Producers' Exchange for the first year.

The committee on exhibits reported the different articles on exhibition, and G. H. Knickerbocker and J. Aspinwall were directed to have the "seal press" altered to meet the needs of the association.

The Treasurer's report is as follows: Received from Treasurer Scofield, $14.05; membership fees for 1888, $30.00; total $44.05. Paid for printing, postage, stationery, and fee of Secretary, $15.60. Balance on hand, $28.55.

Adjourned to meet at Syracuse next year on the call of the executive committee. G. H. KNICKERBOCKER, *Sec.*

FOUL BROOD.

How to Eradicate the Scourge—Putting on Sections.

Written for the American Bee Journal
BY J. W. SMITH.

I think that the matter of foul brood will be one of the leading topics hereafter, for it seems to be getting scattered pretty well already. We have the genuine article here in the centre of this State. I am of the opinion that any information which can be given from actual experience (not theory) in the successful treatment and cure, aside from burning, will be thankfully received by many.

While I was at our bee-convention in Burlington the other day, I was talking of foul brood with one of the largest bee-men in this State, who has at present, I suppose, about 700 colonies. He told me that his bees had it about 18 years ago, and described how he cured it in one season. If I understood him rightly, it was as follows:

He moved the hive with the affected colony from its stand, and placed on the stand an empty box or old hive without combs or stores. He let the bees go into it and remain there for four days; then removed them and put a new hive in place of the box; he shook the bees into that, with empty combs or foundation, and let them stay. He took good care of the old hive, and all that belonged to it, and in that way he got rid of the foul brood. Does any one know of a better way?

Putting Sections on the Hives.

I would also like to know why it is not just as well to place all the sections that will be likely to be wanted on a hive, at once, to save the trouble of raising up and putting others under, and disturbing the bees.

Moscow, Vt.

STARTERS.

How to Fasten Foundation in the Sections.

Written for the American Bee Journal
BY H. C. GIFFORD.

I notice that in almost every number of the BEE JOURNAL something is said about fastening foundation in sections, and written by men, to all appearance, that ought to be well posted in this matter. It seems strange to me that so many differ in opinion, as there seems to me to be but one proper way to fasten the foundation, if to economize in material and labor is the object,

which, of course, it ought to be. My experience of last year is as follows :

I began by using a putty-knife, pressing the foundation in the groove, and then straightening it up. I dipped the knife in honey so that it would not stick, and, to do my best, some of them would pull off when the bees got on them, which makes bad work.

Then I saw an item in the BEE JOURNAL something like this : Take one part rosin and two parts beeswax ; melt them over a stove, just so they are melted, but not hot ; reduce the fire so as to keep it just warm, and dip the foundation in this mixture with the right hand, hold the section in the left hand, and press it into the groove of the section, when it is done, and you cannot pull it off ; the foundation will tear to pieces before it will let go. I tried it, and I found that it took only one row of cells to fasten it solid to the section, when by the other way it took two or three rows ; I could put them on five times as fast, and they were straight, solid, and so much neater to look at. There was no fear of their dropping off. If you do not use all the wax mixture, let it stand until you want to use it again, as it will not spoil or waste. It is a great saving in time and material, and any old wax will do. The less wax used on each piece of foundation, the better job you can do.

I would not think of using any other method than the above, after the experience I have had in this branch of our industry.

Last season was a perfect failure with me, yet I am not discouraged ; but I am afraid I would be if it was not for the weekly visits of the AMERICAN BEE JOURNAL, that clears everything up, and I feel refreshed after perusing its valuable contents.

Morris, Ills.

BEE-MEN'S TALK.

The Northeastern O., Northwestern Pa., and Western N. Y. Bee-Keepers' Convention.

Written for the Pennsylvania Farmer

BY C. H. COON.

This convention was opened at Meadville, Pa., on Jan. 25, 1888. After the reading of the President's address, the enrollment of members, and paying of dues, the election of officers was held and resulted as follows :

D. H. Lefever, of Hayfield, Pa., President ; J. A. Barrett, of Cherry Valley, O., 1st Vice-President ; C. H. Coon, of New Lyme, O., Secretary ; George Spitler, of Mosiertown, Pa., Treasurer.

The convention at 3 p.m. proceeded to the discussion of the subject, "How may we increase the product of our apiaries ?" After a thorough discussion of this topic, which brought out many practical points, the question, "For the production of comb honey, by what management is the best possible result obtained, as to yield and quality ?" was taken up. This discussion was followed by the question-box, after which the convention adjourned until evening.

EVENING SESSION.

The convention was called to order at 7 p.m., with President Lefever in the chair.

Can Extracted Honey of the Best Quality be Produced at Less Cost than Comb Honey of Like Quality ?

Mr. Barrett affirmed that it could, and that if he got two-thirds as much for his extracted honey, it would pay him to extract it.

Mr. Phelps—If I produce good extracted honey, it will cost me quite as much as comb honey. It takes the bees just as long to produce the one as the other. My first consideration is to get all the honey produced possible. I make three grades of my extracted honey, and I think by so doing that I realize more money. It cannot be made to sell as well as comb honey. Then there is the cost of packages and trouble in getting them back again.

Mr. Barrett—I get more honey by extracting it. Let it ripen well before extracting, and it will come out of the comb without difficulty.

Mr. Mason—Honey of the best quality can be gotten only out of comb made with the honey. When we consider that the honey must be evaporated and ripened before extracting, I am forced to conclude that extracting-combs refilled cannot contain the best quality of honey.

Mr. Phelps—Ripening takes place after the cells are capped over, and Mr. Barrett well knows that the nicest honey can be produced only by allowing this process to be finished in the comb.

Mr. Mason—The cells must crack open before ripening. Bees ripen honey by heat.

President Lefever—After honey is once capped it can be ripened, if necessary, after it is taken from the hive, by putting it in a warm room. I will sell such honey as first quality, and it will give satisfaction, too.

Mr. Mason—Honey ripened outside of hives lacks in flavor. You can often observe sweat on the hive where the water is evaporating from the honey. Honey should be kept in a dry, warm room. If in a damp room it will absorb moisture.

President Lefever—The source from which the bees obtained the honey has much to do with its keeping qualities.

Mr. Phelps—I am aware that honey will absorb water at a certain heat. My experience is that the cause of sweating is to be found in the fluctuations of temperature. I think the proper temperature to insure against sweating is 80° to 90°. I store my honey in a room with a chimney running up through it. I find that the honey near this chimney never sweats; but that farthest away, where the temperature varies at different times, sweats more or less. I have some that is four years old.

Question, "Is not your 1884 honey thicker than your new ?"

Mr. Phelps—Yes, that farthest from the chimney is candied more or less, but that nearest is not.

Mr. Marley—My experience agrees exactly with that of Mr. Phelps.

For the Production of Comb Honey, by What System of Management is the Best Possible Result Obtained as to Yield and Quality ?

Mr. McLane—Contract the brood-nests and feed up for winter ; but this is risky, though it was necessary last season.

Mr. Burnett—My experience is that in hives where the bees have free access to the whole hive, I could get more honey, and could get as good a price.

Mr. Phelps — They might begin where the widest space existed, but this does not prove the point.

President Lefever—I use separators. I cannot well get along without them. It is possible to get straight combs without them, but still I would use them for convenience.

Mr. Mason—My own system suits me best, but might not be adapted to other localities. I get no buckwheat honey, it all comes from clover or basswood. When the white clover begins to bloom I draw from the "boomers" to help the light ones. Then I put on the sections. Heat must be economized, because heat costs honey. I use full sheets of foundation. I think it is better than comb. I use a few combs as a bait, and keep empty sections near the brood-nest. I do not want too many frames in the brood-nests. I reduce to from 3 to 5 frames, then they have to go into the sections. Bees should not be deprived of the natural impulse to swarm, but they must be managed economically after this, if you would get any profit.

The convention adjourned to 9 a.m.

THURSDAY MORNING SESSION.

The convention was called to order at 9 a.m., with President Lefever in the chair. After some preliminary business, the programme was taken up.

Through what Channel Should the Products of the Apiary be Conveyed to the Consumer?

Mr. Belden sold the most of his product to a shipper, for cash. He thought it paid him better than to retail it.

T. F. Shepard, one year, took his honey to New York city, and sold it at 35 cents per pound, while at home, owing to the market being glutted, he could only have realized 10 and 12 cents for it.

Mr. Sutton had always been able to sell in the home market.

M. E. Mason—Some people look upon the middleman as a monster, when the fact is, without him it would be hard to get along. He had been in the business a long time, and has never yet seen a time when a large crop was general over the country. Now the middleman makes it his business to find where the crop is short. While the small producer could not afford to ship his honey, the middleman buys the surplus and ships it at less expense than could the small producer to where it is wanted, and by so doing helps to keep up the price in the home market.

Mr. Sutton—Many must sell at home. The large producer should look up a market for his honey.

Mr. Mason said that the past season a fair honey crop was produced in his vicinity, and honey was sold in Jefferson at 10 cents; he went and bought a lot of it. The price was put to 12 cents; he bought it. Then the price went to 16 cents; he bought what he wanted at the price. So by stepping in and buying he made money, as did the producer. Had he not bought, he thinks the price would have been low through the season.

C. H. Coon has been engaged in shipping poultry the past 20 years, and has always sold through commission houses, and has never lost a dollar until this fall. Always find out whether the house you ship to is "solid," and also before you ship an article, be it honey or anything else, find out whether there is a demand for it. Do not crowd the market. When honey is wanted, ship it; not before. He always grades his honey and keeps the best back, has made it a point to place some with the grocer where he trades.

Mr. McLane marketed about 2,000 pounds at 15 and 16 cents wholesale, when his neighbors sold at 10 and 12 cents. He took orders from sample, and sold 48 cases in a very short time, at the same terms at which they (the dealers) bought their other goods. His second shipment was one-half larger. Now he could not supply the demand.

Is It Best to Fill the Sections with Foundation, or only Use Starters?

Mr. N. T. Phelps always uses full sheets in sections, because it is better fastened on the sides; combs stick to the wood better. He never uses starters unless he is short of foundation, when he invariably finds the combs not very well fastened in the sections.

Mr. Bartlett first used a V-shaped starter, but he believes that it is more profitable to use full sheets. When he used starters only, he was troubled with queens in the sections, which he attributed to the drone-combs being built there by the bees at the bottom of the starters. He had many sections spoiled then, but none now since using full sheets.

A vote was taken as to starters and full sheets, two-thirds being in favor of full sheets in sections.

Is Modern Bee-Keeping Sufficiently Remunerative to Warrant those who Aspire to the Luxuries of Life, to Engage in it as a Special Pursuit?

Mr. Phelps—It depends upon what are called luxuries.

I doubt about its being feasible, as we find people in the United States. If expenses were not too great, a person might make a living at the business.

Mr. Barrett—It depends upon the range which we have for the bees to gather honey in. If one could have the whole field within a radius of three miles, it might do, but as things are, if a neighbor would see me getting lots of money, "getting rich," as they say, the business would soon be overdone. As we find the circumstances, it will not pay to make a specialty of the bee-business, but as it is, the bees have paid better than any other branch of farming. I have induced neighbors to sow Alsike clover, which is a good yielder of honey, and makes most excellent hay. The trouble in bee-keeping is, to have forage enough for the bees.

What is the Best Method of Feeding Bees in the Spring?

Mr. Mason—Feed the "Good" candy over the cluster on top of the frames under the cushion; keep the bees warm.

Mr. Shepard—Feed syrup at the entrance.

Mr. Freeman—Feed syrup in a common quart fruit-can. Tie a thin cloth over the mouth of the can, and invert it over the cluster.

Mr. Reynolds—I like feeding on top of the frames best, because the bees do not become so excited as they do when fed at the entrance, consequently less bees are lost by flights off in the cold air.

The convention adjourned to meet in Franklin, in January, 1889. This last meeting, some of the oldest members say, was one of the best and most full of life ever held.

IOWA.

Report of the Nashua Convention of Bee-Keepers.

Written for the American Bee Journal

The Nashua Bee-Keepers' Association held its second annual meeting at Nashua, Iowa, on Feb. 18, 1888. The convention was called to order at 10 a.m., with Pres. Tracy in the chair.

The forenoon session was devoted to the discussion of topics of general interest. Alsike clover was highly recommended as a honey-plant, and one member who had practical experience with it, said that it was superior to other clovers for pasture and hay.

In the afternoon the following officers were elected: President, Thos. Tracy, of Nashua; Vice-President, Geo. H. Potter, of Ionia; and Secretary, H. L. Rouse, of Ionia.

The following questions and answers were then given:

Should bees be taken out of the cellar for a cleansing flight? No.

What amount of ventilation is best? Some preferred very little, and others preferred considerable.

Is shade desirable during the season? Yes; but natural shade is the best, and shade boards come next.

How large an entrance should the colony be given in early spring? One-fourth by 1 inch.

When is the best time to put bees in the cellar? The majority favored putting them in early in November; but better too early than too late.

Thirteen members reported that they were wintering 818 colonies, and that they obtained no honey in 1887.

President Tracy said: "Sometimes my bees become uneasy towards spring, and when I would take a panful of snow, and throw a spoonful in at the hive-entrance of each colony, they would become quiet." He winters his bees in the cellar. About two-thirds of the bees represented by the members are being wintered in the cellar, and the balance in chaff hives.

The convention adjourned to meet in Nashua, on May 19, 1888, at 10 a.m.

H. L. ROUSE, *Sec.*

CONVENTION NOTICES.

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited.

W. H. BEACH, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.

J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Apr. 11.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 8.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Anticipating Favorable Results.—Eugene Secor, Forest City, Iowa, on Feb. 27, 1888, says:

I have not "disturbed" my bees since they were put into the cellar, some in October, and others early in November. They have been so quiet, with the cellar temperature at 35° to 50° (generally between 40° and 45°), that I have not thought it necessary to overhaul them. There are but few dead bees on the floor. I anticipate favorable results.

Cellar-Wintering—Buck-Bush.—G. S. Prime, Arapahoe, Nebr., on Feb. 18, 1888, says:

I am much interested in the question of light in winter for bees in the cellar. I am favorably impressed with the idea.

This is the best bee and honey country that I am acquainted with. I have kept bees in Indiana and Iowa, but this is the best for good, pure honey, the season through. We had a good yield here the last season, and the five years previous. Those who have eaten our honey want no other. It is largely from what is known here as "buck-bush," and it is much like the "snow-drop" that we had in our gardens and lawns in the East. It is very abundant in the low grounds on all streams where I have ever been, that have their source in the Rocky Mountains. I never see it on any other places. It blooms profusely for about three months.

I have wintered bees in the cellar for about twenty years, and I have had no loss except from mice or queenlessness. I try to keep the temperature down near the freezing-point. I think that nearly all the trouble in wintering bees in cellars, is in letting them get too warm.

Cleansing Flights—Bee-Keepers' Union.—H. M. Cates, Shideler, Ind., on Feb. 27, 1888, writes as follows:

Bees for the last three days have had a grand flight. This winter has been a fine one for bees, and in this locality there has been no snow of any consequence, and a very even temperature. It has been mostly dark days, so that bees wintered on the summer stands have had, on an average, one or two cleansing flights per month; this has kept them healthy. I have lost no bees worth mentioning, and to-day they seemed as stroog as they were last September.

For want of a cellar to winter my bees in, I packed them, by making large boxes 12 feet long and 3 feet wide, which would hold 6 colonies to the box; I then packed clover chaff in between and back of the hives. I have saved all except 3 nuclei that had nothing to live on when put in. So far the prospect for a honey crop here is good, as the white and Alsike clovers are not injured by the winter.

I have just read the editorial about the Bee-Keepers' Union, on page 115. You will find my membership fee enclosed with this letter, as I feel that I would not be doing my part, if I did not join the Union now. I think that all bee-keepers should encourage Mr. Z. A. Clark to press the battle to the very gates, for if we do not stand by each other in our rights, the day will soon come when bee-keepers will have to advertise that "I, or we, on a certain day, will apply to the County Commissioners for a license to keep bees." It appears that some people would like to have it just about that way.

Bees are all Right.—Col. R. Walton, Industry, Pa., on Feb. 27, 1888, writes:

Thus far my bees are all right, except very late swarms that issued about the latter part of September. I had about 6 or 7 swarms in that month; we had a nice flow of honey about that time, my colonies were strong in bees, and they began to swarm. I secured only about 200 pounds of honey from about 60 colonies of bees. I am experimenting some this winter with my bees. None of them are packed this winter, and all are on the winter stands, with a big box placed over them. The bees flew nicely last week, and they are all right except 2 small colonies.

Bee-Keepers are Happy.—Jacob Oswalt, Maximo, O., on Feb. 23, 1888, writes:

I am wintering my bees in the "Falcon" chaff hive on the summer stands, and they now seem to be in fine condition. They had a grand flight to-day, and on examination I find that they have all pulled through the winter nicely, excepting two colonies. Bees in this section of the country, as far as heard from, are doing well, and bee-keepers are feeling good.

Bees Mostly in Good Condition.—B. W. Peck, Richmond Centre, O., on Feb. 20, 1888, writes:

I have been out in the apiary examining my bees, and so far they are mostly in good condition; only 3 or 4 colonies having the diarrhea. I had 8 or 10 colonies that had only 12 to 15 pounds of honey; I examined them to see if they need any more, and I found they had enough to last until April, at least, having consumed but little honey. I do not believe that my loss will exceed 10 per cent. I have just purchased 3 more colonies from a neighbor, so I now have 47 colonies. I will report again in the spring.

Disposing of Surplus Honey.—B. E. Foster, Utica, N. Y., writes:

What shall we do with our surplus honey? This is often asked, not so much this year, as honey has been scarce in some States, but not in New York. Comb honey can be bought at 12 cents to-day, and extracted at 8 to 10 cents. Now how is it that honey is as cheap as it was last year in New York? Below is one of the reasons, I think:

Every year the bee-men feed so much sugar for winter stores for the bees. Now, if honey was used instead, how much would there be left? I would say none. But it seems as if the bee-men had got to feed sugar in order to keep their bees alive. This is not true, if we do as we ought, namely, feed nothing but honey, the loss of bees would be very small, if this is all that makes the bees die. I would like to ask how much is made by extracting all the honey and feeding back sugar syrup, if their time is worth anything? I think that if we want to feed honey, we can always get it, if we have none. But the best way is to keep from 100 to 300 pounds of honey over for this purpose, and not sell the last drop.

I was pleased to read Mr. Lindle's article on page 55, where he says that he never fed 50 cents worth of sugar in 31 years, and for 15 years he had made bee-keeping his business. This shows that honey is as good as sugar. If you are afraid the honey is not all right, just bring it to a boil, and this will make it all right, if it came from colonies affected with foul brood. Let us feed no more sugar, but honey.

Colonies Strong and Carrying Pollen.—Albert Newman, Rolla, Mo., on Feb. 23, 1888, says:

My bees carried in pollen on Feb. 20, which is much earlier than usual. They are as strong now as they were last fall, notwithstanding we have had weather from 6° to 12° below zero. They are on the summer stands, protected on the east, north and west by a bank of straw. Those, however, who do not believe in book-learning, and read no bee-paper, will lose heavily, not knowing that all the bees had to be fed last fall in this part of the country. I fed about 170 pounds of granulated sugar to 17 colonies, and by the way they are breeding now, I will have to feed them some more before the honey-flow comes.

Light in Bee-Cellars, etc.—S. J. Youngman, Lakeview, Mich., on Feb. 23, 1888, writes:

I think that the article on page 106, by T. F. Bingham, giving his experience with wintering bees, is the most intensely interesting article published in the BEE JOURNAL since I have been one of its readers. Has it ever been given to the public before? I, for one, would like to know more of the details, especially of the transferring by lamp-light in *midwinter*. If those bees winter well, surely disturbance in winter is not disastrous to bees.

According to Mr. B's article on page 117, the Southern wintering question was surely given a good trial; but could not the unsealed brood have been saved by giving water to the bees, while *en route?* Or could not the transit have been hastened by sending the bees by express? Cannot Mr. Bingham be prevailed upon to give us another article on these subjects?

Carrying in Pollen—Honey-Plants.—W. M. Hess, Conway, Ark., on Feb. 15, 1888, says:

My 10 colonies of bees are wintering well. Yesterday they carried in pollen for the first time this year. In 1887 they carried in the first pollen on Feb. 7, and the last on Oct. 16, and just got enough for a living. I had but one natural swarm, and it issued on July 13. Our bees generally swarm in May, but sometimes in April.

Our main honey-plants are sumac, ragweed, black-gum, cotton, hore-hound, willow, persimmon, and boneset. There is not much buckwheat sown, and no clover. Clover thrives well here, but the trouble is to get it started on account of the grip-grass, but if once started, it will remain until it is killed out. Sumac is a good honey-producer, and of good flavor, but it gets sour before it is ripe. My bees nearly filled all the section-cases, and before they had it half capped over, it turned sour and run down through the brood-frames, so that the bees all left the inside and hung around

the outside of the hive or on the ground. The honey was as thin as water when they gathered it, and I had a great deal of trouble. I did not know what I should do with all this sour honey. Of course I took it off, and put it in the smoke-house. There was some bees in the section-case yet, and I left the hive open about 2 inches, so that all the bees could come out.

We have had no cold weather this winter, the coldest being 10° above zero. My bees have had flights for a week. I look for a good honey season this year. There are no Italian bees in this locality. I sent for an Italian queen last June, and I found the Italians far ahead of the black bees. I use the Langstroth hive, 16 inches long, 12 inches wide, and 11 inches deep, inside measure.

Results of 1887—Alsike Clover.—D. L. Campbell, Royal Oak, Mich., on Feb. 24, 1888, writes:

Last year I think was the poorest that I have experienced in my 18 years of keeping bees. I started with 100 colonies last season, and they got a good start in the spring on elm, maple and willows. They commenced to swarm in May, and increased to 210 colonies. They stored about 2,000 pounds of surplus extracted honey, and 500 pounds of comb honey, with an abundance for winter, which is a better showing than most bee-keepers had for last year.

I sow Alsike clover and furnish seed to my neighbors; I think that is one of the best honey-plants we have. It also makes the best of hay. I do not think that it will pay to raise any plant for honey alone, although I sowed some Chapman honey-plant seed last year, and I think that the same plant grows wild on new land in this locality.

I am wintering 125 colonies in the cellar, and they seem to be all right so far. I also have 73 colonies in chaff hives, and these had a nice, cleansing flight on Feb. 22 and Feb. 23, which they needed very badly, as they had not flown for over two months. I believe there will be serious loss among bees that are not protected, as I hear of quite a number already.

Swarming—Feeding Bees.—A. E. Maley, Auburn, Nebr., on Feb. 20, 1888, writes:

The weather is very changeable here. The bees have had a flight every few days. A swarm issued for me on Feb. 17, and after re-hiving them four times, I had to take a new hive with fresh combs, and drive them in with smoke. The weather since then has been damp and rainy. There has been about 14 inches of snow so far this winter, and it is all melted and soaked into the ground. We have a good prospect of an early spring, and a good season. I had some colonies that had to be fed in January, and I filled some empty combs with sugar syrup, and gave it to them, and they are now doing well. This is a much better way than to feed sugar candy.

Early and Absconding Swarms.—Wm. Irwin, Columbus Grove, O., on Feb. 20, 1888, writes:

I commenced the season of 1887 with 7 colonies of bees; one was robbed, and the other 6 were in fair condition. I increased them to 22 colonies by natural swarming, and obtained 82 pounds of honey in one-pound sections. My bees are Italians and hybrids.

On page 472 of the AMERICAN BEE JOURNAL for 1887, Mr. Willis M. Barnum says that he had an extra large swarm one morning at exactly 7:30 o'clock; and then says, "Who can beat that?" I can. I had a swarm on June 17, at 6:25 in the morning, and another at 7:10 a.m. They were prime swarms. I had a large second swarm that was bound to go to the woods. It issued on June 14, and returned to the parent hive. On June 15 it came out again, went about 40 rods, and then returned to the hive whence it came. On June 16 it started off again, and went ¼ mile. I "belled" them every time they went off, and they became disorganized and came back. On June 17 they came out again, and went high up on a tree, less than half a mile away.

I winter my bees on the summer stands, on from 4 to 6 frames, packed in wheat chaff and forest leaves. They had good flights on Feb. 12 and Feb. 13, and seem to be wintering well.

Bees did Well in 1887.—A. C. Loomis, Grand Rapids, Mich., on Feb. 28, 1888, says:

My bees did well last year. I increased them from 4 colonies to 8 colonies, and obtained 350 pounds of comb honey.

Langstroth Hives—Light Cellars.—H. S. Ball, Granby, Quebec, on Feb. 13, 1888, writes:

The best hive for this northern country, and I think for any other country, is the Langstroth hive. It is the best for wintering, and it exceeds any other that we have in this country for summer use. I have used them for ten years, and have never lost a single colony from any cause in wintering. I knew of one case where a man lost 190 colonies in what he called the Jones hive, and not one colony that was in a Langstroth hive. All were in the same cellar. I have used five or six different kinds of hives, and I say, give Langstroth the medal! Can bees be wintered in a light cellar?

[Yes; read the article on page 106, on this subject.—ED.]

Bees Breeding Early.—H. G. Frame, North Manchester, Ind., on Feb. 23, 1888, says:

My bees had their first flight last Saturday, the first since Sunday, Dec. 4, 1887, lacking just one day of eleven weeks' confinement, and nearly five weeks longer than last winter. My bees are wintering nicely so far, on the summer stands. My method of packing in the spring differs from nearly all the methods that I have ever read of. I examined several colonies to-day, and I found that some have capped brood, some have larvæ, and some have nothing but eggs. Nearly every colony carried in more or less pollen to-day. I believe that we will have an early spring.

The Season in Texas.—B. F. Carroll, Blooming Grove, Tex., on Feb. 16, 1888, writes:

The season of 1887 in Texas will long be remembered; we had 5 inches of rain from Jan. 1 to Aug. 28. We had 16½ inches at one time; from Aug. 28 to Nov. 8, 5 inches more, 8 inches in November, and about 10 inches up to this date. We have had 10 inches of snow, and the mercury 2° below zero here, and 18° below in northwest Texas. Bees began bringing in pollen on Feb. 8, ten days later than last year; and now the mercury is at 32° Fahr., with a prospect of a lower temperature before morning. The mint is up in the best stand since 1882, and the bee-men look for another grand honey crop. I have lost 40 per cent. of my bees, and I am feeding the 25 colonies left, with a view of an increase to 75 colonies; as I have good combs in 40 two-story Simplicity hives. Six years ago there were within five miles of my place 1,000 colonies of bees; now there are about 200. I have plenty of room now.

The old AMERICAN BEE JOURNAL grows younger, puts on a brand new dress, and goes out to be admired by all who take a peep at its new face.

Honey and Beeswax Market.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs., 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Feb. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 15@18c.; the same in 2-lbs., 13@15c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c.; dark, 5½@6c. Market dull.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Feb. 21. 28 & 30 W. Broadway, near Duane St.

CINCINNATI.

HONEY.—We quote extracted at 4@9c. per lb. Choice comb, 16@20c., in the jobbing way. Demand fair and supply good.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Feb. 20. C. F. MUTH & SON, Freeman & Central Av.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Feb. 24. BLAKE & RIPLEY, 57 Chatham Street.

DENVER.

HONEY.—Best white 1-lb. sections, 19@20c.; 2-lb. sections, 16@18c. Extracted, 8@10c.
BEESWAX.—20@23c.
Feb. 18. J. M. CLARK & CO., 1409 Fifteenth St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 13@16c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.
BEESWAX.—20@24c.
Feb. 18. SCHACHT & LEMCKE, 122-124 Davis St.

DETROIT.

HONEY.—Best white in 1-pound sections, 17@19c. Extracted, 9@10c. for light colored. Market weaker and supply only fair.
BEESWAX.—22@23c.
Feb. 17. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections; 2-lbs. or about, 14@15c. Dark is slow of sale, with no steady price. Extracted moving slowly. Offerings of all kinds are large. Demand better.
BEESWAX.—22@23c. R. A. BURNETT,
Feb. 16. 181 South Water St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Feb. 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 18@19c.; 2-lbs., 15@16c.; 3-lbs., 14@15c. Dark and broken not quotable. Extracted, white in kegs and tin, 9@9½c.; ½-barrels and barrels, 8½@9c.; dark and mixed in same, 6@7c. Market slow; better demand expected.
BEESWAX.—22@25c.
Feb. 2. A. V. BISHOP, 142 W. Water St.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)..... $1 00
" 100 colonies (220 pages)..... ..... 1 25
" 200 colonies (420 pages)..... 1 50

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck; 20 cents per lb.—by express or freight.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered very soon. We are promised an early spring, and a good honey crop.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents.; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2 25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Advertisements.

BEES, —ITALIANS — PURE.— Good in every respect. **Cheap,** for the Quality. Address, **A. L. GOULD,** 10A1t RIDGEVILLE, Iroquois Co., ILL.
Mention the American Bee Journal.

SMITH & SMITH
We have one of the largest
Bee-Hive Factories in the World.
☞ If you are interested in BEES, send for our Price-List—*Free.* Good GOODS, and fair Prices. Address, **SMITH & SMITH,** 10Etf KENTON, Hardin Co., O.
Mention the American Bee Journal.

THOMAS G. NEWMAN & SON,
WHOLESALE & RETAIL
SUPPLIES for BEE-KEEPERS
ALSO DEALERS IN
HONEY and BEESWAX,
923 & 925 West Madison St., CHICAGO, ILL.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

G. B. LEWIS & CO.
WE make the best Bee-Hives, the best Sections, the best Shipping-Crates, the best Frames, etc., etc.
☞ We sell them at the Lowest Prices.—Write for free Illustrated Catalogue.
G. B. LEWIS & CO.,
37Atf WATERTOWN, WIS.
Mention the American Bee Journal.

MINNESOTA AHEAD!
WE are selling **100 All-Wood Langstroth Brood-Frames** for $1.00; and Langstroth HIVES, with Supers, for 55 cts.
☞ Don't order your Supplies for 1888 until you see our Circular.
WM. H. BRIGHT,
10Atf MAZEPPA, MINNESOTA.
Mention the American Bee Journal.

FOR **Quality** and **Price** these SECTIONS have no equal. Send for Price-List, retail and wholesale; also of **Wood Separators, Foundation, Cases, etc.** Address as in the Cut above. 7A4t
Mention the American Bee Journal.

2-Story Langstroth Hive, 80c.
WE still have a few of those Two-Story **Langstroth HIVES** with 10 Brood-Frames, at **80 cents.**
Who wants them? Speak QUICK, or it will be too late. Address,
SMITH & SMITH,
10Etf KENTON, Hardin Co., OHIO.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. March 14, 1888. No. 11.

EDITORIAL BUZZINGS.

Mamma and I were looking o'er
The last bee-papers for bee-lore.
Our three-yeared "pet" was busy too,
Removing wrappers from a few.

New costumed A. B. J. she spied;
Then, "Oh! new picture I see!" she cried,
Then paused—then, with admirlog glee,
"A nice big 'pungkun!' Mamma, see."
—*Oliver Foster.*

Bees in Cellars should be allowed to remain there until settled warm weather. We often think of an apt remark made by Dr. Miller to us some years ago. It was this: "I never regretted letting my bees remain in the cellar too long, but I have often regretted taking them out too soon." Let all take the hint. Do not be in any hurry to take them out on the first fine day! Wait!

Fastening Foundation in Sections.—Mr. G. W. Cole has sent us some samples of the work done by his machine—the temperature being 40° and 46° in the room where it was done—the rapidity being 8 and 10 in a minute. He says the temperature should be from 60° to 90° to have the best results. The work is well done, and at the higher temperature (46°) it is perfect.

Candied Honey in Combs, etc.—H. V. S. Stout, Dover, Del., on March 3, 1888, writes:

I have a very few sections and combs in which the honey has candied. How can I get them cleaned up for use the coming season? Bees are wintering well. The weather has been mild, and queens are laying freely.

Give the candied honey in the sections and combs to the bees. They will clean them up.

Gathering the Statistics.—Some names have been received at this office of those who would be willing to act as correspondents for the gathering of statistics by the Government, but nothing like the number required, or even an apology for such number. Some approve the plan, and others do not. It is quite evident to us that no plan already mentioned will be acceptable to all, and, further, that there is much apathy in reference to the matter among bee-keepers. Perhaps they do not want it known what they are doing, and take a more selfish view of the affair. Here is a letter from E. France, of Platteville, Wis., who does not like the method we proposed, of gaining the information through the assessors:

It is stated on page 131, that the best and surest way to obtain statistics of the bee-industry, is to have questions in the assessors' blanks to be answered. That plan would not suit the average bee-keeper. Perhaps not one-fourth of the bees in the country are now taxed, and if the assessors took down the number of colonies of bees, honey, etc., he, of course, would have to set some value on the property, and levy taxes on the same. I do not know how to get the statistics; but I am satisfied that the assessor would not get one-half of the information, and what he did get, would not be worth very much.

That is right, let the matter be discussed freely, and all the points of interest brought before the readers of bee-literature. It is not so difficult to say what *will not do*, as it is to point out a successful method, which will give universal satisfaction. We are anxiously awaiting the advent of the person who will say, "Behold I show you'la more excellent way," and who can prove the assertion satisfactorily.

Badly Stung.—Mr. G. B. Olney, of Atlantic, Iowa, on March 2, 1888, sends us the following item from the Cumberland, Iowa, *Current:*

We see by an article in the *Democrat* that the *Messenger* has succeeded in running against the red-hot end of the AMERICAN BEE JOURNAL. It does, or should feel the sting of the contact.

Mr. Olney remarks that there is a general interest arising in that community about bee-keeping, and that in consequence there will be many from Atlantic who will attend the Bee-Keepers' Convention at Red Oak this week. He adds:

The article from the AMERICAN BEE JOURNAL of Dec. 21, 1887, is going the rounds, and I am glad to meet so many with a pleasant smile (raised to about 90° in the shade). That "dose of poison" article is stinging the *Messenger* thoroughly on all sides. Having no shield to ward off the thrusts, it is compelled to quietly take all that comes, without the slightest resistance.

A Frame Lifter is sent to our Museum by Mr. B. E. Foster, Utica, N. Y. It consists of two bent wires as handles, operating two "nippers" at the ends of the wires, which hold the frame, and it will answer the purpose very well. It is placed in the Museum.

Change to Columbus, O.—We think that the expediency of changing the place for holding the North American Bee-Keepers' Convention is quite apparent. The Grand Army of the Republic will hold a Reunion at Columbus, O., during the Centennial celebration at that city, and these two attractions alone will call for cheap transportation—probably one-fifth of the usual fare. This item is usually the largest one for bee-keepers who attend conventions—especially the International. We understand that this matter is now before the executive committee, and the change from Toledo to Columbus should be made without the least hesitation or delay. All the "expressions" sent to this office but two, are in favor of the change to Columbus—and not one has been received which favored its being held in Toledo! Two State conventions have passed resolutions favoring the change to Columbus, and have elected delegates to attend that convention. Let the change be made and announced at once, so that all arrangements may be made for a rousing meeting.

Queens from the South.—L. B. Graves, of Nineveh, Ind., asks the following questions:

1. Would it be practicable to send South for an early queen, say April or early in May, to Italianize my 5 colonies of bees?
2. Would they be as hardy as queens reared in the northern States?
3. Are Albinos a desirable strain of bees?
4. What is the general opinion of the Carniolans? Please answer through the BEE JOURNAL.

As there are many who have made similar inquiries to the above, we will reply for the benefit of all.

1. Yes; but it should not be shipped until the weather is settled and reasonably warm.
2. Yes; equally so.
3. Yes; if they have as good working qualities as their plumage.
4. They are hardy, and generally liked.

Be Wise and Be Happy.—This is the title of a circular sent to us by W.R. G., Greenville, Texas. It purports to be sent out from Chicago, and he wanted us to investigate the source. It is another of the many *frauds* operating through the United States mails. It wants the "dupes" to send a sum of money for a book entitled "Secrets of Bee-Keeping," which promises all kinds of impossible things, among the latter, it proposes to teach the buyers of the book how to get "from 200 to 600 pounds of honey from every colony.

We sent the money to the address named for a copy of the book. It was a boarding house; the person named had a small room there, but did his business only through the mail, said the keeper of the house, and she added, "He is not in through the day." The way to be *wise* is not to send money to such unknown persons. All the books of any value on the pursuit of bee-keeping can be obtained at this office without risk, at the publishers' prices.

GLEANS OF NEWS.

Honey for Analyzation.—Mr. J. R. Bostwick, of New Milford, Conn., has sent us a copy of the *Gazette*, which states that he has supplied some honey to be analyzed from which a standard for the State will be made. He evidently has a double end in view, for with such a "State standard" derived from an analysis of his honey, he has a secure field for all the honey he can produce. The *Gazette* says :

On Jan. 27, H. L. Jeffrey packed at the residence of J. R. Bostwick a few samples of honey to be sent to the Connecticut Experiment Station to be analyzed, and the analysis to be used as a standard. Mr. Jeffrey, a few days before, had been requested by letter from the Station, to send some samples of liquid and comb honey known to be the *straight* article, for analysis.

When Mr. Jeffrey was sorting out and finishing up the crop of Mr. Bostwick's honey last October, he selected two one-quart jars full, with the intention of placing them in the hands of the State Board. One of the jars was taken to Hartford when the Agricultural Board met, the other went to the Experiment Station in the case of samples. In the same case was a sample of the same lot of honey equal in every way except that it had been exposed to the cold weather, and had become as hard as any sample of butter, but it was not frozen. This peculiar quality possessed by honey, to become hard at a temperature below 50°, and its peculiar appearance in that state, is as sure a test of purity as is any chemical analysis.

A 5 per cent. adulteration, or even an addition of water, is very plainly seen, as it leaves quite an amount of liquid among the granules of the sugars which the pure honey as it is gathered from the flowers is composed of. Honey that is not properly ripened is easily detected even by a person not an expert. Many look upon granulated or solidified honey with suspicion, and yet the fact is that the harder the honey the purer it is.

In the case sent to the Experiment Station were two samples of comb honey ; one from the basswood bloom, usually sold by the misnomer of white clover, and the other was gathered from fall flowers and the juices of fruit. Both were rich and heavy in quality, though lacking in tempting appearance. Mr. Bostwick had about 13 gallons of this quality of extracted honey, and quite a crop of comb honey.

Eucalyptus Honey.—In the Oakland, Calif., *Enquirer* for the 9th ult., Mr, W. A. Pryal makes these remarks about eucalyptus honey :

All along the foothills near Oakland bees do well, and annually store a good supply of as luscious honey as one could well desire to eat. The honey gathered during the winter months may be said to be collected exclusively from the flowers of eucalyptus trees, and is of a dark color, and very thick. This honey is said to possess medicinal properties. The clearest and most delicious honey is stored during the latter part of May, and all through June.

Bees were first brought to this county in the fifties, long before they were introduced to the now famous honey regions of the State.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

A Sugar-Producing Tree. — Mr. Lewis Proxmire, of Mt. Union, Pa., sends us the following from the *Grocers' Criterion*, for publication in the BEE JOURNAL :

A report comes from the East which is of great importance, if true. It is that there has been discovered in British India a blossom of such saccharine properties that it is destined to revolutionize the sugar business of the world. It is the flower of the mahwa, or moola, a tree of large size, which abounds in the southern portion of Hindostan. This blossom has a sweet taste, and yields one-half its weight in sugar. The Hindoos have for a long period been accustomed to extract a syrup from the mahwa's flowers but in the most primitive fashion, without attempting to develop a process. The tree, it is stated, demands neither care nor cultivation. It produces annually a thousand pounds (?) of blossoms, which it sheds during the night. The saccharine matter is also serviceable for a spirituous liquor, and for an oil which may be used for both lighting and food. If this wonderful report is correct, it may be seen at a glance what a disastrous competition the mahwa is likely to make with existing sugar industries.

The best West India plantations produce 400 pounds per aspent (1¼ acres), and the French and German sugar beet farms do not equal this amount. But it is claimed that the blossoms of five mahwa trees will yield the same amount, a statement not consistent with the reported weight of the bloom, which, however, must be an error. From 200 to 250 trees can be grown upon an aspent from which it results that the crop of sugar will be from 40 to 50 times greater per acre of land than that of the sugar cane. The English-speaking Hindoo press is already urging the Government to take steps for making this new sugar industry a monopoly as far as possible.

We know nothing more of this tree than is stated in the article.

Dr. A. B. Mason has been appointed superintendent of the Apiarian Department of the Ohio Centennial Exposition, to be held at Columbus next fall. The Director General says that a suitable building will be provided for the Bee-Department, and that the superientendent shall have "full swing." The Doctor writes us as follows concerning the arrangements contemplated:

I have thought of having an octagonal building erected, with a fine large pyramid of comb and extracted honey in the centre, so made as to constantly, but slowly revolve with other pyramids, and different kinds of arrangements on the sides, all enclosed with bee-proof (and thief proof) wire cloth, and all the light to be admitted through the roof.

Suitable premiums will be awarded, and if the North American Bee-Keepers' Convention should meet at Columbus, there would be no trouble in getting the best judges in the country to award the premiums.

French Book.—From our friend and co-laborer Mr. Ed. Bertrand, Nyon, Switzerland, comes a new bee-book in the French language. It is a guide for the apiarist for each month of the year. It contains 150 pages, and is illustrated. Mr. Bertrand is one of the most progressive and practical apiarists of Europe, and his book is full of valuable suggestions concerning the proper management of bees. Its cost after paying transportation and postage is about 80 cents.

Bee-Cellars. — Mr. A. Bridges, of Ontario, gives this description of his preparation of his bee-cellar for the present winter :

I boarded the walls of my cellar with rough boards, leaving a small space between the stone walls and the boards, then I lined the board walls with building paper, and laid a board floor on the bottom of the cellar, leaving a 2-inch space between the bottom and the floor. This makes the cellar very dry and warm ; no frost can possibly get in.

The Farmers' and Bee-Keepers' Association of Newaygo County, Mich., was held at Fremont, on Feb. 9 and 10, 1888, and new By-Laws adopted. The Glee Club rendered some excellent music, and a banquet was spread at the St. Charles Hotel, of which about 70 partook. Mr. Geo. E. Hilton was re-elected Secretary-Treasurer. Mr. W. E. Gould read an essay on "Practical Bee-Keeping," which was very interesting. "Relative benefits of apiculture, agriculture and horticulture," by Geo. E. Hilton, and a talk about "The Clover," by A. M. Alton, closed the exercises.

New Catalogues for 1888 are on our desk, from the following persons:

Frank A. Eaton, Bluffton, O.—12 pages—Eaton's Specialties.

Nixon Nozzle and Machine Co., Dayton, O.—20 pages—Spraying Machinery.

Wm. H. Bright, Mazeppa, Minn.—24 pages—Bee-Keepers' Supplies.

Smith & Smith, Kenton, O.—24 pages—Implements in Bee-Culture.

G. M. Doolittle, Borodino, N. Y.—4 pages—Italian Bees and Queens.

H. P. Langdon, East Constable, N. Y.—4 pages—Bees and Queens.

Thomas B. Blow, Welwyn, Herts, England—64 pages—Bee-Keepers' Supplies.

W. E. Gould, Fremont, Mich.—12 pages—Bees, Queens, and Apiarian Supplies.

CONVENTION NOTICES.

☞ The Wabash County Bee-Keepers' Association will meet at North Manchester, Ind., on April 10, 1888. F. S. COMSTOCK, *Sec.*

☞ The Eastern Indiana Bee-Keepers' Association will hold its spring meeting on Saturday, April 21, 1888, at Richmond, Ind. M. G. REYNOLDS, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited. W. H. BEACH, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice. J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

☞ The tenth annual meeting of the Texas State Bee-Keepers' Association will be held at the bee-yards of Vice-President W. R. Graham, in Greenville, Hunt Co., Texas, on May 2 and 3, 1888. A leading feature of the convention will be criticisms upon subjects that have been mentioned in the bee-papers. A good time is expected, so let all Texas and Arkansas bee-keepers attend. A cordial invitation is extended to all bee-keepers wheresoever dispersed. Remember, no hotel bills to pay at our conventions ! B. F. CARROLL, *Sec.*

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Apr. 11.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Apr. 21.—Eastern Indiana, at Richmond, Ind.
M. G. Reynolds, Sec., Williamsburg, Ind.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

May 2, 3.—Texas State, at Greenville, Tex.
B. F. Carroll, Sec., Blooming Grove, Tex.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 7.—Welland County, at Welland, Ont.
J. F. Dunn, Sec., Ridgeway, Ont.

May 8.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

May 19.—Nashua, at Nashua, Iowa.
H. L. Rouse, Sec. Ionia, Iowa.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Bees in Fine Condition.—Calvin Boyd, Petrolea, Ont., on March 3, 1888, says:

I commenced the season of 1887 with 20 colonies, increased them to 37 colonies, and took 1,500 pounds of extracted honey, and 100 pounds of comb honey. I doubled up my colonies to 27 colonies last fall. I fed 400 pounds of sugar syrup, and packed them for winter on the summer stands. They had their first flight on Feb. 24, the first since the middle of November; they appear to be in fine condition. All the bees in this locality appear to be wintering well.

How to Fasten Foundation.—M. M. Cram, Mankato, Minn., writes thus:

My method of fastening foundation in sections, is as follows: By means of a blade fastened to a lever, I split the section before it is folded, from one of the ends to the first **V**-groove; then spreading the parts sufficiently, I insert the edge of the piece of foundation, of whatever size I wish to use, into the crack so made; then folding the section, the dovetailed parts hold the foundation between the parts of the split end as in a vice. Of course, with sections having bee-spaces only above and below, the right end must be split; that is, the end having the bee-spaces in it. By using a suitable gauge, the section is split exactly in the centre.

Packing Bees for Winter.—L. C. Seabright, Blaine, O., on Feb. 29, 1888, says:

Mr. Jno. A. Buchanan, on page 109, asks me to fix things up so as to help me out with my "pet theory," as he chooses to term the plan pursued by hundreds of practical apiarists in regard to chaff packing. I have tried other modes of wintering my bees, but none so successful as packing them on the summer stands. Admitting that, I commenced last season with 63 colonies, only receiving 60 pounds of honey. Would Mr. B. say that had I wintered my bees in single-walled hives, with nothing but a cushion on top of the frames, as Mr. Lewedag had done, I would have secured a good crop of honey? Well, Mr. Lewedag has broken over the line, for he is wintering only 2 colonies *a la* Buchanan theory. I do not think that it is the fault of the hive, the bees or my management, that I got no honey to speak of.

Last week we had beautiful, spring-like weather, and yesterday morning the mercury was down to 5° above zero. It is during such sudden changes in the latter part of the winter and commencement of spring, that I most appreciate chaff-packing.

Wintering Well — Introducing Queens.—Edmund R. Buller, Campbellford, Ont., on March 2, 1888, writes:

Bees are wintering well in this locality, and those in the cellar, from present appearances, are likely to come through all right, although we have had weather 30° below zero at times. One of my bee-houses, built in the side of a hill, and covered with cedar and earth, contains 50 colonies which seem to be doing remarkably well, with a steady temperature of 42°.

I wish some correspondent would give directions on how to *successfully* introduce virgin queens to strong colonies. I have tried it, and always have failed.

Moving Bees.—W. L. Ginter, McCallsburg, Iowa, on March 5, 1888, says:

I commenced last spring with 9 colonies, increased them to 18, by natural swarming, and obtained about 20 lbs. of comb honey from mustard, of which there is a plenty in this neighborhood. I am nine miles from any basswood, and there is but very little white clover here yet, but it is getting thicker every year. I winter my bees in the cellar, and I have to move about a mile this spring. Had I better let the bees have a flight before moving them? or shall I move them and then let them out?

[When taken from the cellar, put them where they are to stay, and let them mark their location, and enjoy a flight at the same time.—ED.]

Marketing Honey.—Chas. H. Van Vechten, of Victor, N. Y., says:

The greatest market is for nice white clover honey, which is put up in the nice, 1¼ pound sections. I canvassed a whole city over two different times, and I cannot sell 1,500 pounds in that city. But, hold on; one person said he could give 10 cents per pound; that he had written to several parties in New York, and he could not get such prices as are quoted in the bee-papers. I notice that in San Francisco they quote honey at 19 cents for the best in one-pound sections. There must a big mistake somewhere; for in a warm climate as that to keep bees, and being easy to winter, you find California honey in all the Eastern markets: and then see the quotations above New York, and other markets. There has not been a pound of honey sold here for less than 14 cents, and that was early in the season. Bee-keepers should never wait until this time of the year to sell honey. That is where the trouble is.

Feeling Encouraged'— Honey-Boards.—Wm. Lossing, Hokah, Minn., on Feb. 14, 1888, writes:

I put 196 colonies in a winter cave in good condition, and they seem to be all right now. The last season was a poor one for honey in this part of Minnesota. There was no white clover, and very little basswood; but there was plenty of fall honey to fill up the hives for winter. My hives were never heavier than they were last fall. I am looking for a better time for bee-keepers, for the reason that poor crops connected with low prices have discouraged a great many beginners, besides inducing some of the older ones to go out of the business. I have kept bees for 12 years, and never felt more encouraged. I had about 1,500 pounds of extracted honey, which I sold readily for cash at a good price.

Please answer the following: 1. Which kind of a queen-excluding honey-board is the best, all things considered? 2. Does perforated-zinc give perfect satisfaction to those who have used it for years?

[1. The "slatted" queen-excluding honey-board, made of alternate wood and zinc, is undoubtedly the best. As zinc contracts and expands with changing temperature, when used in full sheets over the brood-frames, it sometimes "bulges" or presents a contorted surface; the alternate wood and zinc allows room for expansion and contraction, and keeps it always straight and in place. For a general opinion, read answers to Query 521, on page 150.

2. Yes; as far as we have ever heard, it *has* "given perfect satisfaction, when the holes are of exact size. A worker, when loaded with honey, requires a hole five thirty-seconds of an inch, and this will exclude a queen or drone. Some of that first manufactured varied between five and six thirty-seconds, and did permit the passage of an under-sized queen.—ED.]

Better Prospects for a Crop.—G. W. Johnston, Holden, Mo., on Feb. 28, says:

Bees are wintering well here. Those in the cellar have used from 4 to 7 pounds of honey per colony; while those on the summer stands have consumed from 10 to 15 pounds. The prospect for a crop of honey is better than it was at this time last year.

Severe Winter in Canada.—Thos. Stokes, Minesing, Ont., on March 2, 1888, writes:

We have had a pretty severe winter here, since a little before Christmas. The lowest it has registered was 27° below zero, on Jan. 21. It has been from 10° to 20° below a great many days. But for all the cold, my cellar has only lowered from 47° to 44°, and I think that is very good, not having any underground ventilation, or artificial heat either. Bees are wintering well. Snow has covered the ground all winter, about 18 inches on the level in the woods. The roads are very much drifted.

Selling Honey to Private Families.—David Wilcox, Oxford, N. H., on Feb. 29, 1888, says:

I have 108 colonies of bees, and my last year's increase was 30 colonies. I had 2,400 pounds of honey, 500 pounds of which was taken from the brood-chamber and unfinished sections. There was little fall honey. I fed them about 400 pounds of sugar to carry them through the winter. I put 15 colonies into the cellar, and the rest in chaff hives. All are doing finely so far. I sold the last of my honey last week. Nearly all of my honey was sold to private families, from my wagon or sleigh. I believe more than ever in this way of disposing of our honey. I consider that we had about half a crop last year. There are but few who have used box-hives that obtain any surplus honey. I sell my extracted honey in quart jars, for the same price by the pound as the other. When the weather is warm, I carry it in bulk.

QUERIES AND REPLIES.

PROPER TEMPERATURE FOR BEES TO FLY.

Written for the American Bee Journal

Query 523.—1. At what temperature is it safe to give bees a flight? 2. Is it advisable to do so with snow on the ground? My bees were put in the cellar on Nov. 10, 1887.—Wis.

1. Fifty-five degrees to 60°. 2. Not unless quite warm.—A. B. MASON.

We would not give bees that are in the cellar any flight until spring. The temperature should be above 45°.—DADANT & SON.

1. At 60° in the shade. 2. No. Do not do it until it is about time for willows to blossom, except it may be as a doubtful remedy for a very serious disease.—R. L. TAYLOR.

Our bees here in the South are very seldom three days consecutively without a flight. I have noticed that they will not fly out when it is 40° to 42° above zero.—P. L. VIALLON.

1. About 50° in the shade. 2. It would be desirable that no snow should be close to the hives in front. But why do they need a flight? Bees ought to stay in the cellar from Nov. 10 to April 10, with no bad results.—EUGENE SECOR.

1. I let the bees on the summer stands judge the temperature for themselves. I would not give bees wintered in a cellar a flight until taken out in the spring. 2. It is; the bees that are found on the snow, after a flight, are mainly old bees whose lives are spent.—MRS. L. HARRISON.

1. I do not generally put my bees out until the temperature is 55° or more; but if the sun is shining it might do at a lower temperature. 2. If snow is on the ground, I should like it pretty warm.—C. C. MILLER.

1. About 50° Fahr. 2. Yes, if the snow has a crust on it. If they are all right in the cellar, it is better to leave them until the snow disappears.—C. H. DIBBERN.

1. If bees in the cellar are meant, it is not best to give them a flight at all until spring, unless they are diseased and restless; and I am not sure that it is then. 2. It is safe to let bees on the summer stands fly whenever they want to, snow or no snow.—M. MAHIN.

1. Some of my colonies were put into the cellar last October, and I do not expect to take them out before April 8 or 10, unless I see pollen before that time. 2. My bees have had many a flight with snow on the ground, with no bad results.—H. D. CUTTING.

I would not remove the bees from the cellar while there was snow on the ground, unless they were *very* restless. Fifty degrees or 55° in the sun, 45° in the shade; and if very windy, not then. You must be governed by circumstances.—J. M. HAMBAUGH.

1. At 45° in the shade, if still, and the sun is shining. Otherwise it must be as warm as 55°. 2. Yes, bees can get off the snow as well as off the bare ground if the temperature is right. If your bees are quiet, let them alone till about April 10 to April 25.—G. M. DOOLITTLE.

1. Not lower than 60° Fahr. If the bees are quiet, let them alone. The very best evidence of successful wintering is that they are quiet. Go among them as much as is necessary to brush up and keep the room tidy, but do not fuss and tinker with them without cause.—J. M. SHUCK.

It all depends upon whether or not there is snow upon the ground, how brightly the sun shines, and how hard the wind blows. Leave a few (packed) colonies out as a guide. I have had mine fly safely at 50° in the shade, with snow, when the air was still and the sun was shining. It was 45° once.—JAMES HEDDON.

I should like 60° to 65° in the shade. I would not remove the bees until April 10, when they can commence work if they keep quiet, as they will if the food and the temperature of the cellar is all right. If uneasy in the hive, they may safely be given a flight on a real warm day, even if there is snow. Some cover the snow with straw.—A. J. COOK.

1. I leave my hives open all the time, and allow the bees to fly out whenever they choose. If any are not able to return, I consider them no loss, as they would, in my judgment, die if confined. 2. It makes no difference with myself, whether there is snow on the ground or not, for the above reason.—J. E. POND.

In this climate it is never safe for bees to take a flight when there is snow on the ground, and they seldom attempt to do so unless they have been confined unusually long, and are distressed for a flight. It depends upon the weather, in fact, more than on the temperature. On a still, sunshiny day, bees may fly safely at from 50° to 56°; while they fly with dangerous consequences at 60°, if the wind is blowing a stiff breeze.—G. W. DEMAREE.

The lowest temperature that bees may be taken from a cellar for a flight when there is snow on the ground, is 50° in the shade; but the air must be quiet and the sun shining clear. On putting them out, put straw or hay in front of the hives for the bees to alight on. If it is a cloudy day, the temperature should be 60°. If there are high winds, with the sun shinging clear, the temperature should be at least 55° in the shade.—G. L. TINKER.

If the bees in the cellar are restless or diseased, it might be of advantage to give them a flight when the temperature is from 55° to 60° Fahr. If they are on the summer stands let the bees fly or not, as they desire, whether snow is on the ground or not. To take bees out of the cellar before April 10, in this latitude, is very unwise.—THE EDITOR.

PRACTICING CONTRACTION AND BUILDING COMBS.

Written for the American Bee Journal

Query 524.—1. In contracting the hive to five or six combs, more or less, for wintering, and the same to ecouomize heat for breeding in early spring, do you work the combs to one side of the hive, and use one division-board? Or do you put the combs to the middle of the hive and use a division-board on each side? If you use two, what are your reasons for so doing? 2. When not using foundation, what way do you secure the building of the comb solid to the bottom-bars of hanging frames?—Ohio.

1. To one side. 2. I use foundation.—C. C. MILLER.

1. I use a dummy of the right thickness to fill the space desired. 2. By putting them in an upper story.—G. M. DOOLITTLE.

1. We never contract strong colonies to such small space. For winter we would use two division-boards rather than one, because we can put absorbents on both sides.—DADANT & SON.

1. I use a Langstroth hive 14¼ inches wide, with 9 frames in the winter, and at least one inch of space over the top of the frames. 2. I use full frames of foundation, and consider it more profitable to do so than to use simple starters.—J. E. POND.

1. I put the combs to one side of the hive in nearly every case when I have to contract. 2. I use foundation.—H. D. CUTTING.

1. To one side, and one division-board. 2. Strong colonies will generally secure the comb to the bottom-bar. When they fail to do it, and it is *necessary* to have it done, I insert bits of comb to fill out.—J. P. H. BROWN.

1. I do not use division-boards. 2. The best way to get frames filled "solid" with comb, is to invert them, by turning the hive upside down. Very fair success may be attained by tiering the hives up, putting the frames to be completely filled over the brood-nest, but without a honey-board.—J. M. SHUCK.

1. When the hive is protected by chaff, etc., on the outside, I work the combs to one side of the hive, and use one division-board. If not so protected, I use two division-boards, and pack between the division-boards and sides of the hive. 2. By reversing.—A. B. MASON.

1. I use two division-boards, as it makes nearly a dead air space on each side of the hive, and protects the colony from the cold or sudden changes. 2. When I do not use foundation, I let the bees do as they please.—MRS. L. HARRISON.

1. In the middle, provided the colony was to be wintered out-doors, and not packed. If packed, or in the cellar, I would put them to one side. You see the reason, of course. 2. I know of but one practical way to get frames *full* of combs, foundation or no foundation, and that is by reversing. That secures them so, and keeps them so.—JAMES HEDDON.

1. I use two division-boards when there is room for them, and the reason is, that it "economizes heat." 2. I secure it when I use the combs for extracting purposes in the second story of the hive; that is, over the brood-nest, during a good honey-flow. —R. L. TAYLOR.

1. Yes; here in the South, when it is necessary to contract, we work the combs to one side, and use a wooden division-board. 2. I would not do without foundation. A few years ago, before the "foundation days," I either used a ½ or ¾ inch strip of natural comb, or a triangular guide added after the frame was built out in comb. —P. L. VIALLON.

1. I have, and I practice both ways. I think it about as well to use one division-board. If we pack well and warmly above, I think we need not mind side-packing very much, especially if bees winter well.—A. J. COOK.

1. I have in use a brood-chamber having about the same capacity as six Langstroth frames, and I will transfer the greater part of my bees to such brood-chambers in the spring. I shall not need to use division-boards in these hives. 2. I invert the brood-chamber.—G. L. TINKER.

1. It is better to use two division-boards. But if the frames are full of comb, contraction is of little value. 2. I let the bees do as they please. They do not want brood-combs attached to the bottom-bars. If the combs are put in an upper story, and filled with honey, they will generally be built solid.—M. MAHIN.

If the bees are to be wintered in a cellar, I would place the combs on one side, using one division-board. For out-doors, I would use two. The dead air space or packing is, to some extent, a non-conductor of heat. 2. It can be done by inverting, or inserting pieces of comb.—C. H. DIBBERN.

In winter, I work the combs to the centre of the hive, using a division-board at each side of the cluster, and filling the intervening space with dry maple leaves, chaff, or some equally as good an absorbent. After absorbents are removed in the spring, I usually confine them to the south side of the hive, to get the warmth from the sun, using but one division-board. 2. I use full sheets of foundation; hence I have no rule to obtain full combs otherwise.—J. M. HAMBAUGH.

1. I have never wintered bees on the summer stands. If I should, and should practice contraction, I would prefer the combs in the centre, and the division-boards on both sides. I would then pack some dry absorbent and non-conducting material between the division-board and the outside of the hive. 2. I know of no way to secure that result without inverting the hive or using it above another for extracting from. The latter will not always accomplish the object sought.—EUGENE SECOR.

1. My practice is to place the combs on the south side of the brood-chamber, and close with a division-board on the north side. This plan is decidedly best for this climate, as the bees get the benefit of the warmth of the sun, at intervals through the winter, and especially in the spring. 2. I do not care to have them built solid to the bottom-bars, except where they are used for taking honey from the combs. In that case some narrow strips of comb are pressed between the lower edge of the comb and bottom-bars, at their first use for extraction, and the bees will make them solid for all time. —G. W. DEMAREE.

1. To put the combs in the centre and have a division-board on each side, is preferable because of controlling the temperature by the use of cushions or absorbents on the sides, when bees are wintered on the summer stands. 2. As the bees evidently do not desire "the building of the comb solid to the bottom-bars of hanging frames," we see no reason in trying to "secure" such. We prefer the use of comb foundation.—THE EDITOR.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

CORRESPONDENCE.

HIBERNATION.

What is Hibernation, as Applied to Bees?

Written for the American Bee Journal
BY J. F. LATHAM.

As an answer to the interrogatory on page 42, "What is hibernation?" I would say, analogically, the term signifies to pass the winter, Latin *hiemo*, to winter, and *hybernia*, winter quarters. In the roots *hi-bern(i)a(tion)* we have the material from which linguists have constructed the word, and assigned its modern position in etymology, which, when interpreted in the sense justified by the original, indefinitely conveys the idea of its subjects' passing the winter in winter quaters. In the accredited scientific acceptance of the term, hibernation is used to designate a condition; in the common acceptance it is used to designate an act.

The actual question is, which of the two definitions most correctly describes the general phases accompanying the passage of the hive-bee through its period of winter confinement in Northern latitudes? Bee-keepers in cold climates know from observation that their colonies pass the winter, in winter quarters of some kind; but they are not as positive in regard to their physiological condition during that period; nor is it possible that they can be, so far as optical evidence demonstrates the actual hibernal condition. Therefore, it would seem admissible to say, in the scientific appellation of the term, that the hive-bee does not hibernate.

It is a well-known fact that, in the temperate zones, the hive-bee is influenced, in a greater or less degree, by the periodical changes of the seasons; and, in experiencing those changes it must conform to natural circumstances, or "laws" governing the principles of life, animation, growth, disintegration and suspension, as well as the revivifying efflux of successive rounds of development in an androgynal aspect. But when the chemical process by which the flame of life is stimulated to activity, becomes inactive, the organic mechanism—the visible machine—which constitutes the living, moving, growing animal, or vegetable, ceases to exist as such; and dissolution follows, leading to the fact that, a total suspension of functional activity is preceded by a total absence of calorific combustion, the

only inextinguishable motor of animate existence.

It is very apparent that the hive-bee is only physically constituted to experience, to a certain degree, the coma to which the brute animals are subjected during the hibernal period, and can but lapse into short periods of repose; so that, when the fuel in its stomach becomes exhausted it must arouse, and eat to replenish the flames of life. The true hibernating animal does not partake of food during the hibernating period; although it does at times leave its hibernacular during very mild and comparatively long-continued thaws, even in mid-winter.

After having passed the limits of a definite grade of development, in its progress from the vegetable to the animal, no animal can become frozen solid, or even become sufficiently benumbed by cold, as to wholly destroy its vital functions, and live. The hive-bee, in its evolutionary rounds, has advanced beyond the degree correlative of the vegetable, and is now very nearly, if not wholly a distinct species of the insect animal, so to speak, and its existence, organic structure, means of obtaining food, method of reproduction, and habits of domestic economy are irrefragible evidence that its condition is beyond the *radical* principles; but not beyond the *broad* principles that govern the periodical subsidence and revival of the strictly vegetable species.

When the season wanes, the forest trees and shrubbery put on their terminal buds; growth ceases; and the elements contributing to their development are held in suspension until the genial warmth of the spring sun stimulates a renewal of their cyclic round of activity. Is not this period of repose and period of activity, as illustrated in the economy of the vegetable, when unconnected with the animal, as admissible as when allied to, or performing its functions in union with the animal; when animate life is, in a certain degree, dependent upon the vegetable elements for the support of its impetus? Life, without the influence of motion on matter, is inadmissible.

When the term hibernation is used to describe the condition, or profound coma experienced by certain species of animals during the winter season, its scope can only include the vegetable elements, and must be confined, necessarily, to very nicely defined limits. Less than hibernation would be *nil*; more than hibernation would be dissolution. The intermediate condition, the equilibrium of the evolving forces, would be simply *repose*.

Again, it does not appear that the comatose condition evinced by the hibernating species is habitual with the hive-bee, as it does not accompany that insect from the regions of flowers and snow-storms, to the ever-blooming flora of tropical climes.

Cumberland, Maine.

NATURE'S WAY.

Management of Bees on Natural Principles.

Written for the American Bee Journal

BY W. S. VANDRUFF.

In this article I suppose I will depart considerable from the present way of managing bees, and especially for surplus comb honey. I think that the present system of working for comb honey is far from being in accordance with natural principles, and this is why there is so much trouble in getting bees to work in the sections. It seems that with the present management it is almost impossible to get the bees to build nice, straight comb honey in sections, free from pollen and brood, without using queen-excluders, separators, honey-boards, etc.

To get the bees into the sections also seems to be a great problem, and it seems that the only way devised by our leading bee-keepers is to use some kind of "force work." We read of all kinds of contraction methods that can be devised to force the bees into the sections, and after they are in the sections, the next great trouble is to get them to build the combs straight, free from pollen and brood, without using force work again, thus forcing the queen to stay below by putting on a queen-excluder. I think that if the natural inclinations of the bees were fully understood, and by proper manipulation, all this trouble could be overcome.

We should study the secrets of the bee's nature more than we do, and theorize less, and not make hives and fixtures just as we think they ought to be, unless they are in accordance with natural principles. I will now mention wherein I think that the present system is not managed on natural principles:

1. Bees naturally build their combs about 1½ inches apart, or a little less, from centre to centre. 2. Bees naturally cluster all together in one cluster to build comb. Now, to make the sections nearly 2 inches wide, and force the bees to build combs so far apart, is against their nature; and sections without side-openings are against their natural way of working. Also dividing up the cluster into a multitude of little clusters is entirely against the natural instincts of bees. Just think of a surplus chamber with fifty or more apartments divided off only about 4 inches square, and a little less than 2 inches wide, as is the case in using wide sections with separators and without side-openings. No wonder that we read of so much trouble in getting the bees into the sections. The system is against the very nature of bees.

I have used several kinds of hives, and know of about all kinds in use, but I have yet to see or read of a hive that comes up to my idea of one that meets the natural inclination of the bees. I have never used queen-excluders or separators—I have always believed them a hindrance to the working of bees. I have always managed to get along without them. I have been studying the natural inclination of bees, and the more I work in accordance with their nature, the more I can accomplish. I am working on the natural-principle system, and I am succeeding beyond my expectations. I succeeded the past season in getting nice, straight comb honey in sections, free from pollen and brood, even in the brood-chamber, and without using queen-excluders or separators. I used no force work to keep the queen out of the sections, but manipulated according to the nature of the queens and bees.

There is a cause for the queen laying in the sections, a cause for the bees putting pollen in the sections, and a cause for the bees making bulged and crooked combs; and I am making it a special study to try to discover these causes, and a remedy for them. I expect in the near future to perfect a system of getting nice, straight comb honey, free from pollen or brood. Such a system I will call the "Natural principle system," as I will work entirely on natural principles. I expect to be able to get comb honey in either story of the hive, without using queen-excluders, separators, or anything of the kind. I believe that it is possible to get honey in sections side by side with the brood-combs, without the queen laying in the sections, and without using queen-excluders.

It is because the combs are not manipulated in exact accordance with the nature of the queen and bees, that we get brood and pollen in the sections. The more machinery and hindrances in the way of queen-excluders, separators, etc., that we have about the hives, the less honey we will get; because any system that is not in accordance with the nature of the bees results in a loss of honey, as it retards the work of the bees.

This article may bring forth many criticisms; I cannot expect much else, as I am attacking a system in general

use all over this continent, and a system most generally approved by the leading bee-keepers of the present day. But I do not think that they believe the system has reached perfection.

[This "attack" fairly takes one's breath—it is so sudden—so general—so positive. Well, we shall await the advent of the "Natural principle system," and its practical test. We know that perfection has not been reached—but the system may or may not be one of the steps leading to it.—ED.]

APPLE BLOOM.

Destroying the Codling Moth with London Purple.

Written for the American Bee Journal
BY JOSEPH BEATH.

I noticed sometime since in the *Western Rural*, an article from Prof. A. J. Cook, relative to poisoning the codling moth. Will he please give an article on that subject in the AMERICAN BEE JOURNAL, telling how to do it, so as not to injure the bees, where there are a large number of trees? and where to get a suitable force pump, stating the price, etc.

Corning, Iowa.

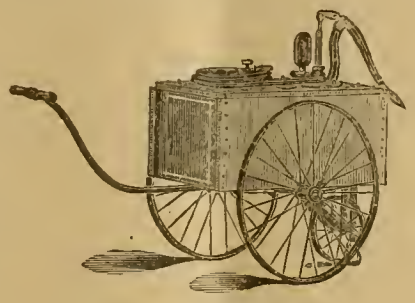
[The following is Prof. Cook's responsive article on the subject:—ED.]

No enemy of the apple has been so much and so justly dreaded as the codling moth, *Carpocapsa pomonella Linn.* This little miner of the apple—the so-called "apple-worm"—is so wide spread, and so generally destructive, that many thousands of dollars worth of apples have been destroyed by it annually. Of late, however, we have found a very cheap, safe, and effective remedy in the Arsenites, London purple, or Paris green. I prefer London purple, as it is cheaper, more easily mixed with water, and stays mixed longer.

To use it, we mix one pound of the poison to 100 gallons of water. We apply it in May, just as the blossoms have fallen from the apple or pear trees. If applied earlier it may poison the bees, and will do no good for a few days, till the apple is formed, and before that it may be all washed off by a heavy rain. If deferred longer than just after the blossoms have fallen, many of the larvæ—"worms"—will have entered the fruit, and so be out of harm's way.

The time to apply it is when the apples are the size of small peas. If no heavy rains come, one application answers so well that a second one hardly pays. If a heavy rain comes within three weeks, a second application may well be made.

To treat an orchard, barrels of the liquid mixture should be taken in a wagon and drawn through the orchard and applied by use of a powerful force pump (as the poison is only held in suspension, of course it must be kept well mixed; we easily accomplish this by pumping into the liquid), so that the spray may be thrown on with such force that it will scatter to every fruit. With this weak mixture we can be so thorough as to be very certain to strike every apple, and yet not kill the foliage. If the spray is thrown on with great force, it scatters so that we are pretty sure to do very perfect execution. A good spray-nozzle is desirable. The Nixon—made at Dayton, Ohio—is the best that I know of.



NIXON FORCE PUMP.

The "Moody Field Force Pump" (N. Y.), attaches by a gearing to the wheels of the wagon, and so runs by the same power that draws the wagon. This costs about $28, but pays well where larger orchards are to be treated. A. H. Nixon also works a cart which is so arranged as to run the pump. The former pump I have tried, as I have the nozzle, and I know they are admirable. The latter pump I have not tried.—A. J. COOK.

BROOD-CHAMBERS.

My Position Regarding Sectional Hives.

Written for the American Bee Journal
BY DR. G. L. TINKER.

There seems to be an effort to draw me out on this subject, but I have no interest in the matter, one way or the other, except the general good of bee-keepers; and to this extent, those who wish to draw on me, may do so freely.

The subject of the essay I wrote for the Ohio State Convention, as published on page 86, was suggested by friends who no doubt expected me to write favorably of sectional brood-chambers, and so promote the interests of Mr. Heddon; and that I should have done, and have been glad to have done, if I could at the same time have written in the interests of bee-keepers. But that I could not do, and longer defend the sectional brood-chamber.

In the matter of bee-hives this experiment of Mr. Heddon is not the first, by any means, that has come to nothing; and he well alludes to one of the writers of a parallel nature. I am not at all ashamed of it, as in the case of Mr. Heddon's experiment and that of hundreds of others in this country, it failed in practice to "pan out" as beautifully as it did in theory. The only difference, if any, between us is, that my theory of "continuous passages" was not as finely spun as that on his divisible and interchangeable brood-chamber. Hence, I do not anticipate that my failure to realize will at all compare with his.

While failures have been the rule in introducing new bee-hives, they should not discourage us in the hope of obtaining something better than we now have; but they may well teach us that a trial of time will often bring out defects in our inventions that could not well have been foreseen.

As to my record in this matter, I confess to have thought well of the beautiful theories that Mr. Heddon gave us on bringing out his new hive, and only regret that they did not prove to be all that the gifted writer expected.

I have nothing further to add on the subject, to the carefully worded matter in my essay read before the Ohio convention.

New Philadelphia, O.

ALSIKE CLOVER.

Experience with Alsike Clover for Honey, for Pasture, and as a Fertilizer.

Written for the American Bee Journal
BY GEO. W. MORRIS.

I wish to add my little mite in favor of Alsike clover. Five years ago I obtained one bushel of seed, and sowed the same on about 20 acres of wheat and oats land, and got a fair stand of clover. The second year there was a fine bloom, and I had an extra crop of honey—1,300 pounds of extracted honey from 7 colonies, spring count, besides hiving 7 good swarms cast from them. I cut and threshed about 4 acres of the best of it, and received 6 bushels of nice, clean seed as a result.

I believe that it is equal to, if not better, as a fertilizer, than the common red clover, for three years ago I sowed, on shares, a field (wheat-field) belonging to another person, and the

result was a good stand of clover which was pastured the second season, and furnished a fine lot of grazing, too, considering that the land was thin and "tired."

The next spring (last year) this field was cultivated in corn, and although a comparatively dry season, it produced more corn and fodder than it had in one season for 15 years.

Another thing that I have noticed is, that horses inclined to rogue will always go to the field that has Alsike clover, thereby demonstrating their appreciation for this clover to other grasses. I have none sown at present, nor any land to sow on, but if some seedman will send to me a lot of Alsike clover Leaflets, free of cost, I will distribute them to farmers.

Cornishville, Ky.

HIVES.

Experience with Small Hives vs. Large Hives.

Written for the American Bee Journal

BY W. J. DAVIS.

I was much interested in the controversy between Messrs. Heddon, Dadant, and others, in Volume XXIII of the AMERICAN BEE JOURNAL, and then I proposed, at some further time, to give the results of my experience in the use of different sized hives.

I have no doubt that the season of the year at which the main honey harvest may be expected in different localities, has something to do in determining the proper size of hive for that place; and where the principal harvest occurs late (as in some portions of the West), a large brood-chamber *may* be preferable, hence Mr. Dadant may be correct in preferring such. But in northwest Pennsylvania our main harvest is from white clover, and commences about June 10, and lasts about four or five weeks. When the weather is favorable the yield of surplus honey is satisfactory. But good seasons are the exception. A majority of our Junes are either too dry or too wet for the best results.

After adopting the Langstroth hive in 1860, I made most of my hives to hold 8 Langstroth frames. The top-bar of the frame is 19 inches long. By way of experiment, I made about 60 hives to hold 12 frames in the brood-chamber, with an upper story for 80 pounds of surplus honey. These were mostly used for "out apiaries," of not more than 20 colonies each. A few of these large hives were used for several years in my home apiary, but never with satisfactory results; the larger the hive, the less surplus honey, and the most bees in the autumn.

About ten years ago I concluded to shorten my frames 5 inches, making them with a top-bar 14 inches instead of 19 inches. I made the change slowly, as facts demonstrated safety, until at present over 200 of my colonies occupy the shorter frames.

I am a specialist. I do not keep bees for fun, nor as a remedy for rheumatism. My bread and butter depends upon the success of the apiary. The hive that will give the most surplus honey without regard to increase of colonies, is the one for me. There are comparatively few bee-keepers who are located where the 100 or 200 pounds of surplus per colony is the average yield. Where one is so located where fields of white clover and forests of basswood abound, a hundred others will scarcely average 20 pounds per colony, and it is the sheerest nonsense to say that it is *all* in the *management*.

Presuming, then, that ninety-nine out of every one hundred bee-keepers of North America are not in a land flowing with milk and honey, it becomes a practical question how to secure the best returns for the capital and labor invested.

What I term a "small hive," as I use them, is one 12x13 inches, inside measure, and 10 inches from the bottom-board to the honey-board, and containing 752 square inches of comb, or 1,504 square inches of comb-surface. Allowing 28 bees to hatch from each square inch of comb surface, we have 42,112 bees hatching in every 21 days, or about 2,000 per day. This applies to the height of the breeding season, when there should be little or no honey in the brood-nest. During March and April I find that colonies build up more rapidly in the smaller hive, owing to the fact of greater warmth, or the better economizing of the heat of the cluster.

To get the brood-chamber crowded with bees, at the beginning of the honey harvest, and then apply the section-cases as fast as needed, raising the cases when about two-thirds full, and placing an empty case between the first case and the brood-nest, gives room sufficient. I find in every case that the bees in the smaller hives commence work in the sections several days sooner than in the larger hives. In poor seasons, like the summer of 1887, we are able to secure some surplus from colonies in small hives, while the large ones yield none.

Another reason why I prefer the smaller hives is, that on the approach of winter we have (to my mind) a proper sized colony of bees, and not a "boomer," with say one-half bushel of bees (and an exhausted queen) to consume the labors of the previous season, and be not one whit better on May 1, than the medium sized colony of the previous autumn.

It must be remembered that 1,000 or 10,000 bees cannot be reared without that per cent. of exhaustion to the queen, and also of the stores of the hive, and it should also be remembered that at present prices, the bees themselves have no value in the fall of the year, as they will not sell for more in the spring than the cost of the hive, value of the combs, and stores consumed, allowing such stores to have been placed in a marketable shape the previous summer. I speak only of the production of comb honey (extracted has no market in this locality).

Another reason for my preference is, the ease with which the hives are placed in winter quarters, and removed again to the summer stands.

Youngsville, Pa.

WATER FOR BEES.

Is it Necessary in Winter? When to Put them in the Cellar.

Written for the American Bee Journal

BY J. M. LYMAN.

At the recent convention in Indianapolis, regarding wintering bees, Mr. Bull is reported as saying that it is essential that bees be supplied with water. I do not know why. In New York State I have wintered bees on the summer stands, in Ohio only in the cellar, and I have lost bees in both ways; here, however, only from starvation, possibly by having never provided water.

I have taken bees out of their winter quarters in the spring, and upon examination I have found them without one drop of honey in all their realm. By a little feeding they made prosperous colonies. There are essentials in order to obtain the best results in everything, but conditions sometimes make it so impracticable that those sweeping assertions generally fail.

When to Put Bees into the Cellar.

In another convention was asked the question, "When is the best time to put bees into the cellar?" Would not good, common-sense be the best source of information? I recommend putting bees early into their long night of winter. The chill of early November warns them that it is time to prepare for the inclement season that is about to precipitate "upon the face of all the earth."

Generally, from 10 to 15 days thereafter, comes a warm, bright, sunny day to gladden and refresh the gloomy, old days, and out-rush the bees for a flight, a change, a rest and sight-see-

ing, and seldom reclustering in the same compact, judicious positions previously occupied. Detached, straggling clumps of bees can be found separated from the main clusters, on different positions of the combs and sides of the hive, probably expecting the following day to assume their proper place and position; but, alas, the sudden and severe change, to which this climate is subject, proves fatal, for the day of sunshine is changed to a night of frost! From the chill they seldom recover, so the loss is more than the gain from their brief flight.

My bees are never taken from the cellar until they are placed in position for their summer campaign.

I have the utmost patience for what seems *the* silliest question, when honestly set before us for information (the one quoted above is one of the solid ones); but I have infinite contempt for the man who parades his opinions as deductions from logic and science.

Toledo, Ohio.

FOUNDATION.

Fastening it in Sections and Frames.

Written for the American Bee Journal
BY ED. S. EDEN.

It is somewhat interesting to me to read the different replies to my letter on "Fastening Foundation into Sections," as published on page 790 of the BEE JOURNAL for 1887. Each one claims that his method or machine is just what is wanted. But I fail to see as yet (even after reading Mr. Alpaugh's letter on page 125) that the point of satisfaction is reached.

One of the faults with the majority of machines is, that they cannot be adjusted to different sized sections. Some machines (and Mr. Alpaugh's is one of them) can only fasten foundation into 4-piece sections, and that before the sections are put together. Each machine must be made for a certain size of section.

I have found that a large majority of bee-keepers prefer to fasten the foundation after the sections are put together, as it is far better and handier in every respect. I believe that my plan comes nearer to the line of perfection, for I can fasten foundation of any size, from ½-inch to full sheets, into 1, 2 or 4 piece sections; either before or after they are put together, at the rate of 12 to 15 per minute, or from 7,000 to 8,000 per day.

My bees are wintering well; all are alive so far, and appear to be in good condition.

Eastwood, Ont., Feb. 24, 1888.

TEMPERATURE.

The Proper Temperature of a Bee-Cellar.

Written for the American Bee Journal
BY WILLIAM CROWLEY.

I have read Mr. Tyrrell's article on page 25, with very much interest, as it coincides with my experience as to the proper temperature of a bee-cellar. I would like to ask, if bees will break cluster and become restless on the summer stands at a temperature of 45° Fahr., why will not the same condition exist in the cellar at the same temperature?

I have wintered bees in my cellar for three winters, and the first two winters I intended to keep the temperature at about 45°, but, like Mr. Tyrrell, I failed to control the elements, and the temperature in the coldest weather went down to 28°, and remained from 30° to 35° the greater part of the winter; at that temperature my bees remained quiet, but when the temperature reached 40° and upwards, then they became restless, and a great many left their hives and perished on the ground.

Last summer I had a powerful colony of a choice strain of bees (a prime swarm) that stored 140 pounds of comb honey, being about double the average of my apiary. When I took off the supers and prepared this colony for winter, the brood-chamber was so full that all the bees could hardly get in. After putting them in the cellar, this colony was very restless, while all the others were quiet, until the temperature went down below 40°, then it gradually became quiet.

When I examined them a month after putting them in, I found that the death-rate in the strong colony was equal to a dozen of any of the other colonies. I offer this observation to strengthen Mr. Tyrrell's theory, that we should make the colonies as nearly equal in strength as possible, before putting them into winter quarters. When the colony became reduced in numbers, they could endure the same temperature as the others.

I must go a little further than Mr. Tyrrell; for I want my bee-cellar to range from 30° to 35°, or as near the freezing point (32°) as possible, to insure the best results. How many, from careful observation, dare leave the beaten track and "beard the lion in his den," on this question?

It seems to me that the climate in our different latitudes may have something to do with this question. Here in Minnesota the air is very dry in winter; it seldom thaws after winter begins, until it breaks up in the spring. It is cold here at times; on the mornings of Jan. 15 and 20, the thermometer registered 40° below zero. We call it mild weather here when it is at zero, and 20° to 25° below zero is not bad.

Redwood Falls, Minn.

BEE-KEEPING.

The Italians vs. Common Bees—Honey-Plants, etc.

Written for the American Bee Journal
BY ROLAND SHERBURNE.

The past season may prove a blessing in disguise to some of us. The winter has been cold and steady, and no doubt nearly all the bees in this part of Iowa, that have been left uncared for, will perish. As far as I can learn they are nearly all dead already in this neighborhood.

My largest apiary being in a good locality near timber, the bees gathered sufficient stores for the winter, after equalizing them. But the apiary near town, on the prairie, did not average 10 pounds per colony in the fall.

The past season fully demonstrated the great superiority of Italians over the common bees. What few nearly black colonies I had, did not gather more than enough to eat; and my best Italian-hybrids, that I had always considered equal to any as honey gatherers, did not do nearly as well as the pure Italians; while about a dozen hives that I had marked in the spring as extra colonies, fully proved themselves such. For one to have such hives with 50 or 75 pounds of honey in them, while rows of other hives equally strong in bees have but little honey, speaks volumes towards the profitableness of bee-keeping.

I am wintering my bees in the cellar, and to all appearances they are in excellent condition. I expect to lose a few colonies for want of stores, if the cold weather continues long.

White clover, heart's-ease, and many other honey-producing plants are abundant in this part of Iowa, and as a consequence, a great many keep bees, and supply the local market with honey. It is brought to market in many ways, and, of course, sold cheap. If an excellent article is produced, it must find another market, for people rate the price by the cheapest sold.

I hope no one would for a moment be so selfish as to wish a loss, even in part, to an honest industry, that adds to our agricultural wealth, to the enhancement of a few; but the past season may prove to us the necessity of taking care of our bees, and of having a fair knowledge of them.

Lone Tree, Iowa, Feb. 25, 1888.

COLORADO.

Report of the State Convention Held at Denver.

The Colorado State Bee-Keepers' Association held an adjourned meeting on Feb. 23, 1888. There was an unusually large number present, and great interest was manifested. Colorado is rapidly coming to the front as a honey-producing State, and our bee-keepers are alive to the needs of the hour.

The proceedings consisted in thorough discussion of topics pertaining to successful bee-culture.

The following is from the Colorado *Farmer:*

In discussing "The causes of candied honey," Mrs. Levi Booth considered it was owing to the kind of honey and the season; when there was a good deal of dew and rain, honey does not candy. She had kept it in a dark room, and had 500 pounds candy solid in the comb. This year she had kept it in a light room, and it was in good condition, notwithstanding the fact that it had frozen.

Messrs. Davis, Rhodes and others thought that the candying of two or three years ago was caused by the dry season. The bees secured the honey from the yellow rosin-weed.

President Milleson had wintered bees on candied honey, not a spoonful of liquid honey being found in the hive; but he kept a saturated sponge in the top. Bees must have the water. Before he used the sponge the bees tore the comb and scattered it to get out the moist parts of it.

V. De Vinney wanted to know if alfalfa honey would not candy faster than clover.

Mrs. Booth had no candied honey last year, yet her bees had nothing but alfalfa and bee-weed.

Louis Brock, of Littleton, had had the same experience.

"How often should the queens be changed?"

Robert James thought that if they would change every two years they would have stronger colonies. When asked by the President to give his experience with Cyprians, he said he would not keep them for they were too cross. He had counted 165 queen-cells in a single hive, fifty of them being capped over. They were so cross you could hardly smoke them down, yet they would fill a 20-pound box with surplus in a short time after swarming.

"Can you restore a colony of fertile workers? In what way?"

D. C. Thompson, of Brighton, examined his hives last year, and occasionally he would find no queen, but fertile workers. He introduced queen-cells, queens in cages, etc., but to no avail.

"How long does it take to hatch bee-eggs?"

The President said: "By the best authorities, 16 days for queen-bees, 21 for workers, and 24 for drones to mature."

"Which is preferable, natural swarming or dividing?"

Mr. Rhodes considered there was not much difference. He divided as it was most convenient, where they kept an imported queen to get queens from. Natural swarms come when we do not want them.

The discussion showed that natural swarming would cause the most honey; dividing, the most bees.

"Is it advisable to keep bees unless familiar with theories of standard authors?"

Mr. Porter in answer would say, no. Out his way many had rushed into the business, and yet had to buy their honey. They should read and get one colony to practice upon. The first year he kept bees he thought he knew it all, but now he felt he knew nothing, although he studied much. The AMERICAN BEE JOURNAL was recommended.

Mrs. Booth, on the best method to prevent robbing, said: "Make the entrance to the hive about ¼ inch only, and this will enable the colony to keep out the robber bees."

Mr. Goodrich, of Illinois, said that they were satisfied with 15 days. They must be in readiness for their swarms. If they get ten days' good flow of honey they were pretty sure of 125 pounds of surplus honey. After 60 days from the time of the first flight, they can fill the hive. If you want bees, you must let them swarm naturally, but dividing the colonies might be successful. If the colony was weak, cut off the queen's head. Do not divide so as to depopulate the hive.

"How does California compare with Colorado in bee-culture?"

Robert James said that the white sage which grew in the canyons was the chief honey supply. When there are a plenty of blossoms the honey crop is good. Since we have introduced alfalfa there is rarely a failure, but drouth often causes it there.

Mrs. Rhodes said that with alfalfa there was little honey four years ago. We were liable once in a while to failure.

Mr. Clark said all preferred Colorado honey. He could get 2 or 3 cents per pound more for it than for California, yet we must expect some failures, as all States had them.

"How can we best winter bees?"

Mr. Porter said that we need to pay little attention to that. We were so busy that we left them out-doors, and they were all right. If he had a large cellar, and conveniences for getting them in, he would prefer the cellar. But if a little straw or earth be thrown on the north side, they can be kept out all winter

The convention elected as delegates to the next North American Bee-Keepers' Convention, Mr. W. L. Porter, of Greeley, Mrs. Levi Booth, of Denver, and Mrs. R. H. Rhodes, of Arvada.

A motion passed unanimously, giving the preference to Columbus, Ohio, as the place of meeting of the next North American Bee-Keepers' Convention.

After discussing the time for holding the annual meeting, and the subject of rye meal for spring feeding, where there was a great diversity of opinion as to its value, the association adjourned to meet Aug. 14, at 10 a.m., in the Horticultural Association rooms.

J. M. CLARK, *Sec.*

QUEEN-CAGE.

A Cage for Introducing Queens, and How to Use It.

Written for the American Bee Journal

BY VET. TUCKER.

Quite a number of queen introducing-cages have been spoken of in the BEE JOURNAL, but the following suggested by a friend, I think is superior to any other that I have examined:

It is similar to the Peet cage, except that it is covered on both top and bottom with wire-cloth, and has a bee-space opening on one side, and a queen-excluding opening on the other. It is provided with food as usual, and the queen and her attendants are run in at the bee-space opening, when all is closed. The cage is then placed on top of the frames of a queenless colony, and a cover placed over, in which an opening has been made the size of the cage into which it is adjusted. Place a small cover over the cage. The queen is now similarly situated as in the Peet cage.

After the usual time given for the bees to become acquainted with the queen, remove the plug from the queen-excluding opening into the cage, and raise the cover even with the top of the cage, and fasten it by means of small pins inserted for the purpose. The workers now have free access to the queen, but the queen cannot leave the cage.

After leaving things in this condition for a short time, return and see if all is well, by lifting the small cover from the cage.

The object of the wire-cloth on top is, that these examinations, etc., can

be made without coming in contact with the bees.

If all is well, the bees will soon commence carrying the food from the cage to the frames below, and thus become acquainted with the queen. If, on examination, the bees are found belligerent, drop the cover to the bottom of the cage, and with a few puffs of smoke, remove all the bees but the attendants, and close the cage. After the usual time, the same can be repeated, and so continue until the bees are friendly to the queen.

When this has been accomplished, open the bee-space on the other side of the cage, and the queen can leave at her pleasure, and commence her labors without danger of attack. Thus the colony is not disturbed at liberating the queen—a factor of no small value, as disturbance sometimes causes the bees to attack their queen after she has been with them for months.

It is difficult to catch and cage a queen, if she is not accepted when liberated. With this cage the queen is always in hand. I have liberated queens which were immediately attacked and put to flight before going among the bees. This could never occur with the above-described cage. I think that it is nearly, if not quite, infallible.

Shelby, Ohio.

MOLDS.

How to Make and Use Foundation Molds.

Written for the American Bee Journal

BY JOHN FARIS.

Foundation molds are made as follows: Make two frames the size of the mold wanted, something like a slate-frame; hinge the two frames together, fit a board in one frame, lay a sheet of foundation on the board, and close the frames. Have the plaster of Paris already mixed, fill the top frame, working it well into every cell, and when the plaster sets, turn over the frames, and take out the board and fill the other frame in the same manner. Let them alone about ten minutes, and then pry open and take off the sheet of foundation, when the molds are ready for use.

Make a tin box for Langstroth molds, 44 inches long, 14 inches wide, and 6 inches deep, with a wooden rim around the top 3 inches wide. Now make another tin box an inch larger, and tack it to the rim; fill the empty space with water, and put it on a stove. Put the beeswax into the box, and heat the whole apparatus until the wax is thoroughly melted; then let the wax cool down, put in two cross-sticks 2 inches from the top of the box at one end of the box.

Before operating is begun, put the molds in luke-warm water, and let them get thoroughly wet; then put the molds on the cross-sticks in the box, and with a dipper or tin cup, pour the wax on one plaster. Close the molds immediately, and gently press them with both hands four or five seconds, and then plunge them into cold water a few seconds. Take them out, and pry them open, and peel off a perfect sheet of foundation, ready for the bees. Or, if you have 10 or 15 pounds of wax, you can dip one plate in the wax, put the plates on the cross-sticks, and close them as in the previous operation. This way makes foundation which will will not sag or break down like the rolled.

Town House, Va.

CANADA.

Report of the Welland County Convention.

The Welland County Bee-Keepers' Association was organized at the Town Hall in Ridgeway, Ont., on Monday, Feb. 20, 1888. Owing to the heavy rains during the day, and the condition of the roads, many persons who had signified their intention of being present, were prevented. Eleven persons were enrolled as members. A courteous letter from Prof. Snider, regretting his inability to be present, and promising to be at the next meeting, was read. The following were elected as officers: H. J. Herber, President; C. H. Mathews, Vice-President; and J. F. Dunn, Secretary-Treasurer.

The different methods of wintering bees was pretty thoroughly discussed.

Mr. Herber winters his bees in a clamp, packed with sawdust in a barn, with the hive-entrances so arranged that the bees can fly on warm days.

Mr. Mathews winters his bees in a clamp, out-doors, the hives being packed in sawdust and forest leaves, with a cushion over the brood-nest, and the honey-boards off. His bees are in good condition.

H. Johnston winters his bees in double-walled sawdust hives, with a sawdust cushion 3 inches thick over the bees, and the super filled with corn-cobs. His bees winter well also.

A number asked, "Do bees seek a home before swarming?" The opinions seemed to be pretty evenly divided on this question.

One member said that a Mr. Troup, of Welland county, had observed a few bees cleaning out a cavity in a decayed tree, and the next day a colony from a neighboring yard occupied the cavity.

The Secretary thought that was no proof, and that bees do seek a home before swarming. A small swarm may have occupied the cavity first, and the one issuing the next day united with them.

Then followed a talk on hiving swarms and contracting the brood-nest. Mr. Herber favored contraction, but thought that the bees would be found in better condition for winter if contraction were not practiced. The bees would have to be fed, etc., and the novice had better let contraction alone.

Discussions on minor topics occupied the balance of the time, after which the convention adjourned to meet again in Welland, Ont., on Monday, May 7, 1888. J. F. DUNN, *Sec.*

Honey and Beeswax Market.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Feb. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 15@18c.; the same in 2-lbs., 13@15c.; buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. Off grades 1@2c. per lb. less. White extracted, 8@9c.; dark, 5½@6c. Market dull.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Feb. 21. 28 & 30 W. Broadway, near Duane St

CINCINNATI

HONEY.—We quote extracted at 4@9c. per lb. Choice comb, 16@20c., in the jobbing way. Demand fair and supply good.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Feb. 20. C. F. MUTH & SON, Freeman & Central Av.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Feb. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 13@16c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.
BEESWAX.—20@24c.
Feb. 18. SCHACHT & LEMCKE, 122-124 Davis St.

DETROIT.

HONEY.—Best white in 1-pound sections, 17@19c. Extracted, 9@10c. for light colored. Market weaker and supply only fair.
BEESWAX.—22@23c.
Feb. 17. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one. lb. sections; 2-lbs. or about, 14@15c. Dark is slow of sale, with no steady price. Extracted moving slowly. Offerings of all kinds are large. Demand better.
BEESWAX,—22@23c. R. A. BURNETT,
Feb. 16. 161 South Water St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.,; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Feb. 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 18@19c.; 2-lbs., 15@16c., 3-lbs., 14@15c. Dark and broken not quotable. Extracted, white in kegs and tin, 9@9½c.; ½-barrels and barrels, 8½@9c.; dark and mixed in same, 6@7c. Market slow; better demand expected.
BEESWAX.—22@25c.
Feb. 2. A. V. BISHOP, 142 W. Water St.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered very soon. We are promised an early spring, and a good honey crop.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Advertisements.

Full Colonies of Bees for Sale

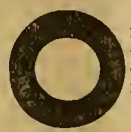
CHEAP, during the season of 1888.
C. M. HOLLINGSWORTH, Rockford, Ills.
11-15-19

1888. QUEENS. 1888.

I HAVE 50 Select Tested QUEENS of last year's rearing, that I will sell in April at $3 00 each; in May, $2.50; in June, $2.00; and from July 1 to Nov. 1, $1.50.

QUEENS, warranted purely mated, $1.00; 6 for $5 00. They are bred from the best of mothers and are superior to the common run of Queens sold at a lower price without any guaranty as to purity. I do not pretend to rear Queens under the Swarming Impulse. I believe with those who answer Queries in this JOURNAL—that it is a humbug. When it is necessary to stimulate to get good Cells, I do so, and that is all there is in it.

☞ Have your orders booked ahead, and send for the Queens when you want them. I will commence shipping Warranted Queens as early in May as possible. I guarantee safe arrival. Address, J. T. WILSON,
NICHOLASVILLE, Jessamine Co., KY.



The BUYERS' GUIDE is issued March and Sept., each year. It is an encyclopedia of useful information for all who purchase the luxuries or the necessities of life. We can clothe you and furnish you with all the necessary and unnecessary appliances to ride, walk, dance, sleep, eat, fish, hunt, work, go to church, or stay at home, and in various sizes, styles and quantities. Just figure out what is required to do all these things COMFORTABLY, and you can make a fair estimate of the value of the BUYERS' GUIDE, which will be sent upon receipt of 10 cents to pay postage,

MONTGOMERY WARD & CO.
111-114 Michigan Avenue, Chicago, Ill.

THE BEE-KEEPERS'
REVIEW,

FOR FEBRUARY, is now out. (It has been delayed by the serious illness of its editor). The special topic of this issue is "TEMPERATURE" as applied to bee-repositories. So much information on this topic has probably never before been gathered into so small a space. The treatment is exhaustive, and it would seem that nothing more need be said on the subject.

Among the contributors to this Number are such men as R. L. Taylor, James Heddon, H. R. Boardman, F. Boomhower, T. F. Bingham, J. A. Buchanan and C. C. Miller.

Several pages are devoted to editorials upon a variety of live topics. There are also choice extracts from the writings of Prof. Cook, C. W. Dayton, C. C. Miller, and others.

A list of contents will not be published, as a copy will cheerfully be sent to all who ask for it. Price of the REVIEW, 50 cts. a year.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, W. Z. HUTCHINSON,
11Atf FLINT, MICHIGAN.

WANTED,

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., - CHICAGO, ILLS.

THE AMERICAN BEE JOURNAL CIRCULATES ALL OVER THE WORLD.
PUBLISHED BY THOS. G. NEWMAN & SON, CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. March 21, 1888. No. 12.

EDITORIAL BUZZINGS.

We do Not hesit8 to st8,
That 1888
Will doubtless be quite choice and gr8,
For bees to hurry up their g8;
And when they've found some honey-fr8,
I'm sure we don't exagger8,
When boldly we assever8,
That not a worker will be l8
In sipping up the tempting b8.

The Greatest Blizzard of modern times raged last week all over the Eastern States, suspending business for four days, and working untold miseries to man and beast. Mails have been delayed by the abandonment of trains, and telegraph and telephone communications nearly all suspended. The blockade was raised last Friday, and the large cities were then restored to the world of commerce.

The Constitution and By-Laws of the Ontario Bee-Keepers' Association is on our desk. It contains 12 pages, if we may count the last page which is occupied with an advertisement of the *Canadian Bee Journal*, where it was printed. It displays *poor taste* to have the latter there, but as it is indifferently printed, perhaps the blunder of putting it there will be overlooked, as well as the advertisement itself.

Bees have Wintered Well.—That is the general verdict. The following are samples of the reports of all, and voice the universal hope for a good season.

P. C. Dowler, New Paris, O., on March 10, 1888, writes: "My bees have wintered finely on the summer stands. The prospects for the future are flattering."

R. F. Holtermann, of Brantford, Ont., March 10, 1888, wrote: "Our bees had a splendid flight yesterday, and reports so far go to show that bees are in very good condition generally. We can all stand a pretty good season, and we all hope for the best."

The British Bee Journal has copied our article relative to its editorial averring that an English clergyman has been to the United States, and had personally visited some "adulterating bee-farms" said to exist here. We branded the article of our cotemporary thus:

It is a base slander—a *nefarious lie*; neither the clergyman in question, nor "any other man" ever visited any such "adulterating bee-farms!" They do not exist!!

It is nothing more nor less than a *scandalous falsehood*—the production of a sensational reporter's brain, written for *spice*, but lacking even the flimsiest "thread" of truth!

Its only possible excuse is the infamous "scientific pleasantry" written "for the *fun* of the thing," by Prof. Wiley—who is so unprincipled as to let it "fly" on electric wires to "the uttermost parts of the Earth," without a word of regret, or denial!

The British *Bee Journal* states that it has instituted "an inquiry into the truth of the information supplied" by the clergyman. That is just what it should do, and our confidence in the integrity of Mr. Cowan is such that we have no doubt of its being done. He was in Switzerland when the article was published, and we expect he was as much surprised and disgusted at its contents as we were.

Our friend, the Rev. L. L. Langstroth, wrote us on the 10th inst. the following scriptural quotation which is very applicable to the situation:

I see that your severe but just condemnation of the Wiley "pleasantry" very properly finds place in the British *Bee Journal*. Proverbs xxvi. 18, 19 reads thus: "As a madman who casteth firebrands, arrows, and death, so is the man that deceiveth his neighbor, and saith, Am I not in sport?" Does not that just describe the Wiley pleasantry?

Statistics.—We have received a large number of replies from bee-men consenting to become correspondents to supply statistics to the Agricultural Department on bees and honey. One remarks thus:

If there are two or more from one county, would it not be necessary for each to know who the others are, so that they may make arrangements to divide the territory, and make no duplicate reports?

We expect when the number is full, that it will be thought necessary to print the names and addresses, and arrange the territory assigned to each person. But we are not yet informed about the details.

Mr. Aaron Singer, of Wabash, Ind., has sent us one of the Statistical Blanks which have been used in that State since 1881. It is a very indefinite and antiquated affair. It has only these three inquiries:

Number of stands of bees.
Number of stands of bees killed by moth or other causes past twelve months.
Number of pounds of honey taken past twelve months.

The blank is headed: FOR STATISTICAL PURPOSES ONLY, and properly-put questions answered correctly would be all that could be desired. It is evident that the blank was made out by some one who knew nothing of bee-keeping.

Mrs. Ellen S. Tupper, who was well-known in apicultural circles some 20 years ago, is said to have died at El Paso, Texas, on March 12, 1888, where she was temporarily visiting her daughter. Since her arrest and trial for "forgery" in 1875-76, she resided in Dakota, where, we understand, her husband died.

Something like a dozen years ago, she obtained between $30,000 and $40,000 from banks in the West, upon "forged notes," endorsed in some instances by her friends, leaving the latter to settle with the banks after the notes had gone to "protest," and the purported signers had been proved to be mythical—among these, the editor of this paper may be enumerated for $2,000, besides several hundreds of dollars for "expenses" and "other crookedness" on her part.

On her trial she pleaded "insanity," and to prove this, her lawyers exhibited several "bank notes" made payable to her, bearing the signature (or rather *mark*) of "Jesus Christ." On this plea she was acquitted, for the testimony against her was overwhelming! She was a "strong-minded woman"—but many have cause to regret that they ever saw her!! "Oh! Frailty! thy name is woman." But "peace to her dust!" Let it rest in peace.

Apiarist.—A correspondent asks the following questions:

Will you be kind enough to explain why "apiarian" cannot be used as a noun as well as "apiarist?" The suffixes "an" and "ist" both mean the same thing, and I confess I can see no reason why we should not say "apiarian." If not, why not?

Why is "queen-rearing" to be preferred to "queen-raising?" Please give us some more "light" on these words.

We reply, the standard authorities such as Webster, Worcester, Kirby and Zell, all agree that apiarist is the noun, and apiarian the adjective. The choice of the suffixes having already been made, it is unnecessary for us to explain *why*—we simply use the words as they are defined by lexicographers.

Queen-rearing is a more elegant expression than queen-raising—we therefore prefer to use it.

A White Clover Blossom is received from Mr. J. W. Winder, of Louisiana. While the Eastern States were taken possession of by a blizzard, and all the Northern States are experiencing "the chilling blasts" of winter, it is refreshing to know that somewhere the flowers are blooming, the birds are warbling their sweetest notes, and all Nature is smiling under sunny skies. Welcome, little blossom, as the harbinger of coming spring!

Mr. C. C. Dailey, of Chicago, has placed one of his tin feeders in our Museum. It has a projecting trough which may be put into the entrance of the hive, and under the frames which connects with the outside reservoir. We brought a similar one from Europe in 1879. This has more surface on which the bees can get the food.

GLEANS OF NEWS.

The Weather in England.—The British *Bee Journal* for March 1, 1888, contains the following item on the comparative weather in Great Britain and North America:

While in the great northwest of North America we are told that those awful visitations called "blizzards" (*i. e.*, tornados of icy particles) have swept over large districts, destroying man and beast, that the whole country was freezing with the thermometer ranging from 50° to 60° *below* zero for several weeks, and then suddenly rose to 50° and 60° *above* zero, "causing the bees to sport in the balmy air," here, in old England, a week of unusually mild weather over the whole country was followed by a change to the opposite extreme, and for the last fortnight the earth has been frost-bound and covered in all parts by deep snow, the storms having begun in the north of Scotland, and spread southward, until the whole face of the land is covered with an icy garment of snow. From Scotland, Ireland, Wales, Somerset, Cornwall, Jersey, France, Spain, Switzerland, etc., the same accounts reach us, of snow and frost in abundance with cutting, searching north and east winds, such as the oldest inhabitants never remember to have occurred at this season of the year, when we were all looking for balmy airs and gentle zephyrs to usher in the spring. In our southern counties the hazel catkins were beginning to appear, the dead nettle and speedwells were in bloom, and on sheltered banks beneath the hedgerows the spring flowers were bursting into bloom, when horrid Winter, with icy hand, again seizes upon every scrap of vegetation and nips it in the bud. And still, as we write, snow on the hills, snow in the valleys, snow everywhere, and snow still falling! But we shall be told that vegetation was getting forward, that a check was required, that better now than later (yes, if we do not get it *later* as well) that—

> "February should fill the dyke,
> And if with the white
> It's the better to like."

Well, let those like it who can, but we do not think our bees will be among the number. By the cutting, withering blasts, and driving, piercing snow, their numbers will certainly be thinned, and many a colony will fail to greet the sunshine—when it comes—with murmuring joyful hum and gaily quivering wing. For ourselves we shall in the future certainly pray, in dear old Virgil's words—"*Di talem terris avertite pestem*—O, ye gods, avert such a scourge from the earth."

Bees and Grapes.—The editor of *Popular Gardening*, when commenting upon the late meeting of the Michigan Horticultural Convention, and the discussion upon the value of bees to grape-growers, says that nearly all the testimony was in favor of the bees, and then adds:

Mr. J. A. Pearce had a new point in their favor. He said that birds punctured a large number of his early grapes, and the juice ran out, disfiguring the clusters, and he thought they would be entirely unsalable. But the bees came to his rescue and sucked up all the oozing juice, cleaning out the injured grapes, so that a slight brush would rub off the dry skins, thus the unpunctured grapes were clean, and he was able to put them on the market, securing fair remuneration for them. Many instances were given were bees were indispensable in promoting the setting of fruits, especially in squashes, melons, etc., and the fertilizing of beans, clover and peas, which could not go on without the aid of bees.

Another Blow.—At the Maine Bee-Keepers' Convention, the President, in his annual address, gives another blow at the infamous lie of Prof. Wiley about manufactured comb-honey. He said:

We have just passed through one of the hardest seasons in our pursuit that has been known for many years. It is said there is never a cloud so dark but it has a silver lining. I think it is not hard to see at the present time that this poor season may be a blessing in disguise, and may work for the good of our business.

Our large markets had got over-stocked with honey, prices had been knocked down by shipping honey into the already over-stocked markets, until heney was selling at ruinous prices.

The Wiley lie was floating over the country, that there were numerous manufactories where bee-comb was manufactured and filled with glucose syrup, and sealed over with hot irons. The newspapers wafted this story along, and thousands believed the story, although it was so inconsistent.

This failure of honey from the flowers has cleared out the honey markets, so that commission men have called loudly for honey, at good prices. Where are these gluco-manufactories all this time, that they allow the markets to become so bare of honey even at the doubled-up prices? This ought to open the eyes of the community on this subject, and strike a death-blow to that infamous lie.

Fastening Foundation in sections has been commented upon several times, and some machines described in these columns. On page 171, Mr. Eden made some statements about such machines in general, and on the one made by Mr. Alpaugh in particular. To this the latter objects; and, in justice to him, we must let him make the following correction:

As Mr. Eden in his article on page 171, refers more to me than any one else, I would like to correct some of his statements. He says, "one of the faults with the majority of machines is, that they cannot be adjusted to different sized sections, some machines (and Mr. Alpaugh's is one of them) can only fasten foundation into 4-piece sections, and that before they are put together." I would like to contradict that statement; one of my machines in use not far from where he lives (made a year ago), was made to suit sections of different sizes, and I have now arranged the machine so that it will fasten foundation in either 1 or 4 piece sections, and width from 1 to 2 inches, either before or after the section is put together, either for full sheets or starters.

In my last, I omitted to state: No matter what the temperature is, so long as it will permit the foundation to be handled.

JACOB ALPAUGH.

Our correspondents should be careful when making statements, to *know* that they are correct before they are allowed to appear in print.

The British Bee-Keepers' Adviser is the name of the new monthly published at two shillings per annum. Address J. Huckle, King's Langley, Herts, England.

Mr. R. A. Grimshaw, in the British *Bee Journal*, says that the "bee-disease" so-called which, sometimes affects bee-keepers (Mr. Heddon for instance) is "pollen-cold," or hay-fever. He prints, side by side, the symptoms of it given by the latter and Dr. Mackenzie in his work on "the catarrhal symptoms of hay-fever." Mr. Grimshaw then adds:

If we read what Pastor Schonfeld tells us on "What do bees use in winter when the pollen collected by them is exhausted?" we shall find plenty of evidence that there is plenty of pollen at hand in the hive in winter, in old combs, cell-walls, and margins, membranes left by the nymphs, and in the excreta of larvæ at the bottom of the cells. He shows that even the stomach of the bee, let alone that of the larva, is unable to make all the pollen-grains yield up their contents, by reason of the hardiness of the extine resisting their digestive or assimilative juices. Now when bees *go out* of their hives silvern and golden in hue, the body hairs covered with pollen, bent, as the insects are, in making the most of a honey glut, and leaving the pollen-cleaning until dark, the whole hive will be not unlike a flour-mill, the air charged with floating grains. If one, at this time, only take a peep under the edge of the quilt (even has a smell at the bees, as Mr. Heddon puts it) a current of hot air rushes out of the opening, carrying on it myriads of pollen-grains to the nostrils. By the showing of various bee-keepers, the disease instantly begins its course. What theory so reasonable as that he gets it from pollen grains fanned about by multitudes of agitated wings, especially when the apparent causes and symptoms are so identical with those of hay-fever known under other names, *e. g.*, pollen catarrh, summer catarrh, idiosyncratic catarrh, rose-cold, peach-cold, and pollen poisoning?

I do not doubt that the bee which flew close past Mr. Heddon's face, and gave him an attack, instead of discharging poison, wafted pollen-grains, which he inhaled. In short, with the infinitesimal percentage of people who are subject to pollen-poisoning, to keep off certain flora gives immunity, and equally keep away from the pollen collected by the bee, and there is no bee-disease. The two must be identical.

My remarks, however imperfect, would be still more so if I did not say something with regard to prevention, etc. Dr. Morel Mackenzie says, "If the poison be continually introduced into the system, the antidote, if one exists, can have but little chance of effecting a cure. Change of residence, from the country to the seaside or town, is recommended," (keep off the bees). And (strange to say, but welcome to bee-keepers), he recommends also a veil to be worn over the face. "I have found a 'double gossamer' veil, which can be had in several colors, answer the purpose in some cases. Protected in this way many people predisposed to hay-fever escape altogether." *Verb. sap.* Tobacco-smoke sometimes affords relief. One part salicylic acid to 1,000 of water, snuffed up the nostrils cuts short the disease. (Binz.)

Prevention being better than cure, let those who are susceptible wear a fine silk veil.

New Catalogues for 1888 are on our desk, from the following persons:

Edward R. Newcomb, Pleasant Valley, N. Y.—37 pages—Bee-Hives and Bee-Keepers' Supplies Generally. This is the handsomest catalogue of bee-keepers' supplies issued for the present year.

J. E. Pryor, Dexter, Iowa—8 pages—Bees, Honey and Supplies.

J. C. Sayles, Hartford, Wis.—9 pages—Apiarian Supplies.

MATTERS OF INTEREST.

The Bee-Keepers' Union.—The case of Z. A. Clark is now being attended to by two of the most noted lawyers of Arkansas: Hon. S. W. Williams, of Little Rock, and Major Witherspoon (ex-Attorney General) of Arkadelphia. Mr. Clark gives the following particulars of the present status of the case:

I was released on *habeas corpus* bond on March 2, for my appearance at 10 a.m. the next day. I had not been home with my family more than about three hours when I was arrested and taken before the Mayor and fined $14 and costs, and remanded to jail again. Of course it would be nonsense to pay the fine, and go back and have the same thing to go over again the next day. Judge Williams advised me never to yield, as we rest on a constitutional right to defend our homes and property. I have suffered physically and mentally since this persecution began. We failed on the *habeas corpus* before the County Judge, and as my wife was worried and distressed about the matter, she had the whole apiary dumped outside the corporation line. This is a disastrous loss, as I have been hard at work about eight years to build up this apiary, and now it is taken from us without a trial by jury.

The Mayor fined me one day when no one had seen any bees about my place. He sent the Marshal to my house to ascertain if he could see any bees. One day it was cool, and no bees were flying. The Marshal did not see any bees, and swore that he did not, but the Mayor fined me "all the same."

We have appealed all the cases—eleven in number—the first day's fine was $5, and an additional dollar for each day; the last day's fine being $15. He even fined me after we had made affidavit asking for a change of venue, because that I "could not get a fair trial, and that he was prejudiced, etc."

I am confident that if bee-keepers could fully realize my condition, the Bee-Keepers' Union would have 10,000 members in 24 hours.

The following is a sample of many letters we have received. It is from J. T. Scofield, of Barnesville, Ohio:

I hope the Arkadelphia case will enlist the sympathy of bee-keepers who were not heretofore members of the Union. Our brother bee-keepers should be defended, and if necessary the case should be appealed to the court of last resort by the Union, and fully vindicated. I will pay assessments if needed.

Mr. James McNeill, of Hudson, N. Y., wrote thus on March 12, 1888:

I am much interested in Mr. Z. A. Clark's plucky defense of his rights in keeping bees. It is our duty to stand by him, and hold up his hands while he is suffering imprisonment, and put to great inconvenience and pecuniary loss in the defense of a principle which is dear to us all. Surely in a matter of this character the injury of one is the concern of all. I would willingly pay a dozen assessments rather than have Mr. Clark worsted in this matter.

No assessment would be necessary, if but a tenth of the bee-keepers of America should join the Union. The Manager does not favor an extra assessment, and will not consent to such, unless it becomes an absolute necessity. If its devotees will not defend the pursuit, who should do so? The defense should have universal support. A few ought not to bear the burden for all.

Mr. A. C. Tyrrel wrote the following letter on this subject:

I enclose $1 which please place to *benefit* fund to aid Mr. Clark in his suit with the city authorities of Arkadelphia, Ark., who, by an unjust ordinance, and enforcing the same, have deprived a worthy man of his liberty, and rights accorded to every citizen of the United States. Granting that Mr. Clark has been guilty of a crime in not obeying the decree of a City Council, and Mayor of that unsavory city—under the Constitution of the United States, he should enjoy the right of a speedy and public trial by an *impartial jury*, which it appears has been denied him. He should have applied for and have been released immediately on a writ of *habeas corpus*, and forthwith instituted criminal proceedings against the Mayor for depriving him of his liberty, and for refusing him a trial by a jury of his countrymen. He has a strong case if properly managed, and I believe he is entitled to damages for the unlawful act. In view of the fact that similar suits are liable to be commenced against bee-keepers without a moment's warning, let every bee-keeper in the United States who is able contribute $1 to the Bee-Keepers' Union, to be expended in defending worthy bee-keepers who are unable to procure counsel. The amount is so small none would feel the *loss*, for it is not a loss when expended for a worthy purpose, and you will have the sweet satisfaction of knowing that a small portion of your money has been of lasting benefit to an unfortunate brother—a victim of prejudice and ignorant fanatics.

Honey from Apple Blossoms.—Prof. Cook remarks in the New York *Tribune* that but few kinds of honey are superior to that from apple blossoms. The color is light amber, and though not quite equal in appearance to that from clover or basswood, it is not so dark as to be objectionable. The flavor is very characteristic, and reminds one of quince preserves. Upon sampling it no one has ever expressed anything but admiration of its quality. The fact that so early in the season as apples bloom, there are very few bees in the hives, as there are yet but few pleasant working days, accounts for the fact that we usually get very little honey from the fruit blossoms.

White Clover and Plum blossoms are received from Mr. E. Israel, of Mississippi. He says the bloom of the elms and maples have come and gone. White clover has been in bloom since the last of February, but he has not yet seen a bee on it.

Frank Leslie's Sunday Magazine for April marks the fact of its being an Easter number by a fine hymn tune, "Christ is Risen," by C. Wenham Smith, and two Easter poems, viz: "Easter—Beside a Tomb," by Myrta Harper Lockett, and "Easter Flowers," by Maria A. Agur. "His Banner Over Me," comes to a happy conclusion, and a new story by George Macdonald, entitled, "The Elect Lady" is begun. As usual in this magazine, there are many short articles, and an abundance of illustrations, both large and small.

Gathering Statistics.—Mr. F. Wilcox, of Mauston, Wis., on March 9, 1888, sent us the following on the above subject:

In reply to your editorial on page 147, "Gathering Statistics," I will say: I have just mailed to J. R. Dodge, statistician, a list embracing *one* name from each county of Wisconsin where apiculture is of any comparative importance. Those personally known or recommended to me were marked to designate that fact. As to the willingness or fitness of the others, I advised him to satisfy himself by correspondence.

Your plan of asking for volunteer correspondents, is a good one, and will help you very much. In my opinion, no one should be depended upon until he first consents to serve, however well qualified he may be.

I do not understand just how the Department will use two correspondents from a county. If each reports the crop of the whole county, it will be a double report; if each attempts to report a portion of the county, I fail to see how they will know when they have it *all* reported and none counted twice.

If but one is employed to report the county, and he is paid something to cover the expense of correspondence, the name of every bee-keeper in his county can be obtained from the assessors or town clerks when he can furnish each bee-keeper with blanks, and ask for a report at certain specified dates. I doubt if a full and accurate report will ever be obtained without the use of money enough to pay the unavoidable expenses.

Permit me now to offer a word of friendly criticism of your plan of collecting statistics by assessors. The first impulse with some persons is to conceal some portion of their property from the assessor. The assessor also wishes to underrate the number of horses, cattle, hogs, sheep, colonies of bees, etc., that his town, city or village may have some advantage when it is equalized by the County Board. In short, the assessors would not report more than half or three-fourths the bees to the county clerk. In regard to the honey crop of the previous year, the assessor could get a fair estimate, but I can see but one way that the information can be used when we get it, that is, let one reporter from each county estimate what per cent. of last year's crop the present crop is, and then figure out the number of pounds from the assessor's returns.

Now I stop. I do not feel competent to give much advice on this subject.

The task is one of Herculean dimensions, and what the result may be it is too early now to even guess. We shall arrange the names into States, and perhaps counties, but that will represent considerable labor. The list will in all probability be printed.

A Correspondent desires us to state "which is best—to have the entrance face the end of the frames, or their sides?" To have it at the ends of the frames saves the travel of the bees, as they can enter at the end of any frame desired.

New Music.—We have received from Richard A. Saalfield, 41 Union Square, New York, the following pieces of music: Rockaby Lullaby, by Chas. H. Williams; The Old Love Story, by Edwin Christie; White Sails in the Harbor, by J. P. Skelly; Pretty as a Butterfly, (Schottische) by Newcomb; Tripping Through the Clover, (Polka) by Ed. Holst. They retail for 40 cents each. Sent post-paid at half-price ($1.00 for the lot), by the publisher, Richard A. Saalfield, 41 Union Square, New York.

QUERIES & REPLIES.

DISTURBING THE CLUSTER OF BEES.

Written for the American Bee Journal

Query 525.—In looking into a hive on a cool morning in early spring, by raising the hive from the bottom-board and peering up, or by raising the honey-board and looking down, where do the bees show the most activity, at the bottom or at the top of the cluster?—New York.

At the bottom, always.—G. M. DOOLITTLE.

At the top.—MRS. L. HARRISON.

Other things being equal, at the bottom.—A. J. COOK.

I never take time for this particular investigation.—H. D. CUTTING.

I give it up; however, as heat rises, I would say, at the top.—J. M. HAMBAUGH.

At the bottom, usually. Why?—JAMES HEDDON.

At the top, I think. I never have tested the matter.—M. MAHIN.

I have never seen any difference.—C. H. DIBBERN.

On a really cool morning in early spring there would be no perceptible difference.—R. L. TAYLOR.

Probably at the top; but this is one of the important things which I never thought of.—EUGENE SECOR.

The bottoms to my hives are nailed on tight, except Heddon's and Armstrong's; and having used them but one season, I do not know; but in the cellar this winter the most activity is at the bottom.—A. B. MASON.

I do not know. Sudden admission of light is apt to disturb the bees at either the top or the bottom. As far as my observation goes, there is no difference.—J. M. SHUCK.

Invariably at the top—taking for granted that it is too cool for them to fly out; as the top is always the warmest.—P. L. VIALLON.

If the querist has a practical object in view, in asking such a question, will he please state it? I give it up.—G. L. TINKER.

That depends. When undisturbed they would be more active at the top of the cluster. You cannot raise the honey-board nor lift from the bottom-board without some disturbance of the bees and signs of activity.—J. P. H. BROWN.

I have not often looked at the cluster from below. I should think that the "activity" would show more where the disturbance was the greatest, and you cannot look at the cluster from below with as little cause of disturbance as you can look at them from above. Every thing else being equal, the cluster should show the greatest activity at the top of the cluster, as the greatest warmth of the hive is at the top of the combs, and here is where the first white tips of the lengthened cells appear in the early spring.—G. W. DEMAREE.

At a guess I should say below, if there is any difference; but I do not know. Make observations and you can determine, but I am not sure that the knowledge will be of any value.—C. C. MILLER.

I do not think that it will make any difference; that is to say, the most activity will be shown first where the bees are first opened to. But why open the hive at the bottom at all, if properly packed? or why disturb the bees at all, anyhow? I can see no good reason for so doing.—J. E. POND.

In the first place we would advise the author of the query not to open the hive on a "cool morning," unless absolutely necessary either to prove some scientific point or repair the effects of some dire calamity. In cool weather the warmest place is at the top of the frames, and there the bees will usually be clustered. The admission of light and air suddenly, will cause activity among the bees, whether it be at the top or bottom.—THE EDITOR.

DESTROYING DRONE-BROOD IN THE SPRING.

Written for the American Bee Journal

Query 526.—1. How will it do to kill all drone-brood as it may be capped over in the spring? 2. Will it prevent swarming to any extent? 3. Will it tend to make the bees cross? 4. Have you tried this method?—Ravenna.

1. I should not advise doing it. 2. It will not. 3. It will. 4. To some extent.—MRS. L. HARRISON.

1. If you do not want drones, what do you rear them for? Kill them if you want to, and then rear more, and kill them, and so on, etc. 2. No. 3. No. 4. Yes, but I do not intend to do so any more.—A. B. MASON.

It will pay you better, and be more quickly done, to cut out the drone-comb and replace with worker-comb.—DADANT & SON.

1. It will do well. 2. To no great extent. 3. In most cases it does so. 4. I have, hundreds of times.—J. P. H. BROWN.

1 and 2. I do not think that it would pay for the trouble, or that it would prevent swarming. 3. I do not know. 4. No.—C. H. DIBBERN.

1. It is better not to have drone-brood. If killed, the queen will immediately lay eggs in the combs, and other drones will be produced. 2. No. 3. No. 4. No.—M. MAHIN.

1. It might do to cut out all drone-comb in the spring. 2. Many drones incite to swarming when there is much honey coming in. 3. Yes. 4. Yes.—G. L. TINKER.

1. Yes, it will do, but it is not profitable to rear brood to kill. Why not rear worker-brood instead of the drone-brood? 2. I think not. 3. No. 4. Yes, years ago.—R. L. TAYLOR.

1. It will do better than to let them hatch out. 2. No. 3. No. 4. I have uncapped considerable drone-brood.—C. C. MILLER.

I have to use this method nearly every spring on account of queen-rearing, to prevent having drones from hybrids or inferior queens, and I never noticed that it made any difference with the bees.—P. L. VIALLON.

1. It would be better to keep the drone-comb out. 2. No. 3. No. 4. Yes, often, both by pruning out all drone-comb and cutting off the heads of the drones. The first method is the best, by far.—A. J. COOK.

1. I have not tried the plan for the purpose you speak. I do not think it will do to practice. 2. As to preventing the bees from swarming, I cannot say, but I do know that it will make them cross. Cut out the drone-comb and replace with worker-comb, before the bees occupy it.—J. M. HAMBAUGH.

1. It is far better to get rid of the drone-comb, so as to prevent the rearing and feeding of this brood. 2. No. 3. No, not unless you make them so by your careless handling. 4. I used to practice decapitating drone-brood, but I prefer not to rear such, of late years.—G. M. DOOLITTLE.

1. I would not advise it. 2. I do not believe that it would. 3. I cannot say. 4. No. It is too much trouble, even if it should be successful. It is too much like cutting queen-cells to prevent swarming—more work than the honey-producer can well afford.—EUGENE SECOR.

1. It is better to cut out the drone-comb before it contains eggs. It would be better still to use full sheets of foundation, and thus avoid drone-comb. 2. and 3. It will not prevent swarming, nor make the bees cross.—JAMES HEDDON.

1. It is not advisable to do so, unless there is likely to be a great number of them to play the part of worthless consumers. The best way is to remove the drone-comb from the brood-nest, and supply its place with worker-comb, 2. No, it has no effect

whatever, so far as I have been able to see. 3. I have noticed that bees were cross when I have decapitated their drone-brood. 4. Yes, often; but I now regulate the number of drones by regulating the combs in the brood-chamber.—G. W. DEMAREE.

1. It would depend upon circumstances. 2. I do not think that it will prevent swarming. 3. I do not remember that it made any difference with them. 4. I tried this plan years ago.—H. D. CUTTING.

1. It is first-rate if it is desired to prevent drone production for any reason. 2. I do not think that it will affect the matter of swarming at all. 4. I have often killed drone-brood in the comb, in days past; but of late years by the use of foundation. I can control the matter quite easily, and with far less trouble.—J. E. POND.

This can be done with a colony or two for experiment. The method, if it be a method, is not practical. Banish the drone-cells from the hive by the use of foundation, or patch up full frames of worker-comb; or, if you find that one of your colonies builds mostly worker-comb, use it for that purpose. Have all worker-combs by hook or crook, and do not rest until you get them.—J. M. SHUCK.

If you do not desire drones, cut out the drone-comb; if you kill the brood, the queen will lay eggs in the cells, and you will have more to "kill." That plan will not prevent swarming, and will not improve the temper of the bees.—THE EDITOR.

CONVENTION NOTICES.

☞ The Wabash County Bee-Keepers' Association will meet at North Manchester, Ind., on April 10, 1888. F. S. COMSTOCK, *Sec.*

☞ The Eastern Indiana Bee-Keepers' Association will hold its spring meeting on Saturday, April 21, 1888, at Richmond, Ind. M. G. REYNOLDS, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited. W. H. BEACH, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice. J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

☞ The 18th semi-annual session of the Central Michigan Bee-Keepers' Association will be held in the Pioneer Room at the State Capitol, on Saturday, April 21, 1888. Prof. A. J. Cook will give an address. A cordial invitation is extended to all, as it will be a very interesting meeting. W. A. BARNES, *Sec.*

☞ The tenth annual meeting of the Texas State Bee-Keepers' Association will be held at the bee-yards of Vice-President W. R. Graham, in Greenville, Hunt Co., Texas, on May 2 and 3, 1888. A leading feature of the convention will be criticisms upon subjects that have been mentioned in the bee-papers. A good time is expected, so let all Texas and Arkansas bee-keepers attend. A cordial invitation is extended to all bee-keepers wheresoever dispersed. Remember, no hotel bills to pay at our conventions! B. F. CARROLL, *Sec.*

CORRESPONDENCE.

IN UNION IS STRENGTH.

Written for the American Bee Journal
BY D. C. BUCK.

Let us like a band of brothers,
Raise our standard high above,
And we'll fight for one another—
All for right and brother's love.

Let "advance," then, be our watchword,
And "In union there is strength;"
So let us thus be felt and heard,
All o'er our land's great breadth and length.

Then rally to our cause, friends,
Let's show what we can do,
In fighting for our rights, and then
Demonstrate that we are true.

Our Bro. Clark lies now in jail,
For keeping bees in town;
Let's help him out on bail,
Then beat the opposition down.

His loved ones now, with broken hearts,
Miss husband and father so dear.
Come, brothers, come! We'll take their parts,
And show that their cries we hear.

Dundee, Mich.

ALFALFA.

The Growing of Alfalfa in Colorado, etc.

Written for the American Bee Journal
BY WM. MUTH-RASMUSSEN.

In answer to Mary A. Goodale's article on page 792 of the BEE JOURNAL for 1887, I send the following from the Denver *Field and Farm*, in regard to alfalfa in Colorado:

How to Raise Alfalfa.

"Alfalfa is not an expensive or difficult crop to grow. The seed will cost here about 10 cents per pound, and 25 or 30 pounds is ample for an acre of land. It should be mixed and sowed with barley or rye, as usually the first year it is thin, and the barley will keep down the weeds, and at the same time make a splendid feed. Besides, it springs up quickly, and affords protection in the way of shade to the tender, young alfalfa plants. One man with a fairly good single team can plow, sow, and harrow in, about 2½ acres per day.

"There are various times for seeding alfalfa. Fall seeding is attracting some attenion, although early spring planting is preferred by many. The month of February in Colorado, if the weather is open, and the ground has been prepared beforehand, is a good time to seed, for the late snows are very beneficial to the seed in the ground. It should be irrigated about three times between cuttings. One man will irrigate five acres per day if the ground is in good condition, and there is a fair head of water. It is probably fair to estimate the expense of cutting, raking and putting in stack at $2 per acre. Thus it will be seen that the total cost of the first crop of an acre of alfalfa, including the purchase of seed, plowing and planting, irrigating, cutting, stacking and baling, will not exceed $8. Baling, however, is not commonly done, and that expense is usually dispensed with.

"The uses of alfalfa are fourfold. The cattle-men are the heaviest consumers of alfalfa. When it is fed, no grain is necessary to keep saddle stock in fine condition. A large amount is also fed to poor cows with calves, on a short range, which otherwise would not be able to raise their calves. And the time has come when the steers of this section, now shipped East and sold as feeders, will be fattened on alfalfa, shipped to the market and sold at 4 and 5 cents per pound instead of 2, as has been the custom for some time past.

"Another great use of alfalfa is in hog-raising, but as the great American porker has only a few friends in Colorado, the industry has not yet received much attention. It is said by those who know, that one acre of alfalfa will fatten forty head of hogs per year. We will figure the hogs at 200 pounds each, and say they are sold at Kansas City quotations at 3½ cents per pound—they are worth more money here—and it will be seen that one acre of alfalfa will grow $280 worth of pork per year. Now figure the interest invested in the hogs, and the cost of caring for the same, and you have the net profit of your alfalfa.

"It would seem that with these facts at command, Colorado farmers ought surely to raise hogs sufficient to supply at least the Denver market, which has to depend largely upon the corn counties of Nebraska and Kansas for pork supplies."

There is no doubt that alfalfa is a valuable plant for honey, aside from its other uses. During eight years residence in this locality, where I depend altogether upon alfalfa for my honey crop, I have never found it a failure. In an ordinarily good season I can always depend upon getting two sets of (84) sections finished by each colony of bees, while some colonies will finish three sets (120 to 126 sections). The honey is very white, and of excellent body and flavor; but if wild flowers are abundant, as after a very wet winter, their honey will give the alfalfa honey an amber color.

The value of alfalfa as a honey-plant depends mainly upon how it is treated by farmers. In the southern counties, where barley is used for hay, alfalfa is used mainly as green fodder,

or sometimes as hay for milk-cows, and is cut as soon as the bloom appears—four to six times during the season. There it would consequently be of no value to the bees. Here the alfalfa is used as hay for horses, and is cut generally only twice, sometimes three times, and the first two cuttings never until it has formed seed, or is nearly out of bloom.

As it is always irrigated, and the roots strike deep down into the ground, it is independent of local rainfall. With plenty of snow on the mountains, furnishing the water for irrigation, we feel safe in predicting a good season.

The past year the first crop of alfalfa yielded well, but for some reason, probably connected with the causes of the general failure everywhere, the second crop yielded but sparingly. Still I got over 5,000 pounds of very fine comb honey in sections, which sold at a fair price; and I might have sold carloads (having had calls for such quantities) if I had had it.

P. S.—Alfalfa hay sells here for $7 to $8 per ton, unbaled, delivered to the buyer.

Independence, Calif.

REVERSIBLE HIVES.

Experience with the Sectional Hive—Severe Weather.

Written for the American Bee Journal

BY JOSHUA BULL.

The report of my success with one colony which I put into a Heddon sectional hive, is as follows:

Colony No. 7 swarmed on June 30, 1887, and was hived in a Heddon hive on a new stand, with full sheets of foundation in the brood-frames. After the above date, as poor as the honey season was last summer, this colony filled two sectional parts of the hive with brood and honey, and two more sectional parts solid with honey well capped over; also 56 sections 4¼x4¼, and 7 to the foot, filled with honey and nicely capped over, besides another case of 28 sections which were about half filled when the honey harvest ended.

When I removed the supers from this colony at the close of the season, I was obliged to allow them three sectional parts of the brood-chamber for winter quarters, for the bees could not all get into two parts.

I do not give the foregoing as an average case; I had no other colony that did as well as this one—neither do I attempt to say how much or how little the hive had to do with the result. I simply state the facts in the case, and leave it for each one to draw his own conclusions.

In order to make the history of this colony a little more complete, I might say that the parent colony was wintered on the summer stand, upon deep frames of the Jones pattern; and that prior to the issuing of this swarm, they had filled and capped 54 sections 4¼x4¼x2 inches, making 110 sections in all; and 4 sectional parts of a hive, besides some unfinished sections.

Cold Weather Since New Years.

Since New Year began, the winter has been very severe in this locality, frequent heavy storms alternating with extremely cold weather. On Jan. 21 my thermometer indicated 46° below zero, and on Feb. 9, 45° below; since the latter date it has not been quite so severe, although it is often below zero. Notwithstanding the intense cold, bees on the summer stands appear to be in fine condition, so far as can be ascertained without lifting the frames. Bees in my cellar are apparently as well and happy as they were last September. Although the mercury has been down to zero and below, every morning for the past five days, yet I heard a crow to-day, which is a precurser of spring.

Seymour, Wis., March 7, 1888.

KENTUCKY.

Bee-Hives and Frames as Used in Kentucky.

Written for the American Bee Journal

BY G. W. DEMAREE.

The article of J. M. Tyler, on page 821 of the BEE JOURNAL for 1887, will doubtless be a surprise to many Kentucky bee-keepers. From his remarks about the Langstroth hive, one not acquainted with the facts, would be led to believe that the Langstroth hive is a rare thing in Kentucky. I have attended nearly all the bee-conventions that have been held in Kentucky for the past ten years, and I have an extensive acquaintance with bee-men of the State, and it is *news* to me, to learn that the Langstroth hive has gone out of use in this State.

In 1884 the Kentucky State Bee-Keepers' Society, through myself as its President, and Dr. N. P. Allen, of Mr. Tyler's own county, as its Secretary, sent out circulars to nearly all the bee-keepers in the State, and obtained about 100 replies. These replies among other things mentioned the kind of hives used by those making the replies.

These reports are now on file in my secretary, and they show that the Langstroth frame is well nigh exclusively used in Kentucky. More than four-fifths of all the movable-frame hives in Kentucky are of the Langstroth style, as to size and make of frame; and four-fifths of the hives used are of the *ten*-frame size. I know but one bee-keeper in the State who uses 8-frame Langstroth hives extensively, and he lives in the northern part of the State.

I have often mentioned the fact to bee-keepers of Kentucky, that if all the States in the Union had adopted the Langstroth frame as have Kentucky bee-keepers, we would have a "standard frame" in the United States without any concert of action.

It is true that many of the advanced bee-men of the State have discarded the old portico and telescope features for a more convenient and handy outer case for the frames. But the frame itself has not been changed as to length and depth, and it is uniformity of brood-frames that makes the desirable interchangeable system of bee-hive manipulation possible.

In the olden time the bee-hive was regarded as simply a domicil—a home—for the bees, and to this day that idea clings with tenacious grip to many modern bee-men.

The big, clumsy chaff hives, legs and porticos, rabbeted or beveled tops to the sectional parts of the hive, roof-shaped hive-covers, etc., are all plain out-croppings of the old-fogy notion that the bee-hive is simply a *home* for the bees.

Were I going to build "homes" for my bees, I would build them of pressed brick, and put sky-lights in the slate roofs to warm up the "genteel" inmates of these palatial homes, in dreary winter, to enable them to take their meals more comfortably. But as my bees are my working stock, and I am the proprietor and chief manager of the enterprise, I resort to the most profitable methods of utilizing their working force, and in order to accomplish this, I put my bees on movable frames as implements in the production of honey, and these implements—movable frames—are adjusted in a handy, manageable outer-case which serves as a tenement, and store-house and work-shop for my little servants.

If anything more is necessary for the safety of my bees in the winter months, that must be a winter arrangement entirely disconnected from my hives. The honey harvest is the all-important season, and there must be no hindrance at that time.

There has been but little written on the subject of wintering bees in Kentucky, for the simple reason that plenty of stores is the main factor in bee-wintering in this State. Dr. N. P. Allen, in Mr. Tyler's own county, kept a large apiary for many years, and his plan for wintering was to confine the

bees to the brood department of the hive by means of a quilt, and in the empty super over the brood department he put about 4 to 6 inches of dry forest leaves, cut-straw or chaff. He never lost any bees if they had plenty of stores, when protected in this way.

I have wintered my bees in the same way as did Dr. Allen, for many years, except that I use from two to four extra quilts over the frames instead of the forest leaves, etc. I do this because quilts do not litter my bee-yard like leaves and chaff do, and give much less labor.

I never lose any bees if they have plenty of stores. All chaff hives and all *side* packing is not only of no service to our bees, but is a positive injury to their prosperity in the latter part of the winter and early spring, because such an arrangement deprives the bees of the reviving influence of the sun's rays at that season of the year.

It is a little strange, at least it will appear so to many practical bee-keepers in Kentucky, that metal queen-excluders, when used as horizontal division-boards, have been found to be a failure by Mr. Tyler. They are a perfect success when used by all the best-informed bee-keepers in this State, so far as I have heard from them. I use them extensively, and the perforations are never filled with propolis, if properly adjusted on the hive. Sometimes a few perforations are closed by the studs of wax built up from the tops of the frames, but this does no harm, as there is plenty of room for the bees to pass without these.

Many of the best things we have in practical bee-culture, are a failure under bad management. If Mr. Tyler will manage the metal queen-excluders in a proper way, I will warrant that he will throw aside the clumsy wood honey-boards, and never use them again. Let him put on the metal queen-excluders at the beginning of the honey harvest, and remove them as soon as the main breeding season is over (say about the middle of August), and he will have no cause to complain of propolis. But if he leaves them on until the bees begin to prepare for winter quarters, they will sometimes undertake to fill the perforations just as they will sometimes try to fill the spaces between the top-bars of the frames.

How the zinc-excluders adjusted between the brood and surplus department of the hive, where the direct heat of the sun never falls, could be the cause of the combs melting down in Mr. Tyler's hives, is another incomprehensive mystery. I presume that Mr. T. simply neglected to protect his hives with good shade-boards during the unprecedented hot weather of last season. That was the trouble, not the metal excluders.

Mr. Tyler is cordially invited to join our State Bee-Keepers' Society, attend its annual meetings, and post up a little, or our good friend, Mr. Muth, will *smile* at him for hinting that he (Mr. Muth) is "behind the times" in bee-culture.

Christiansburg, Ky.

CAPPINGS, ETC.

Old Fogy Bee-Keepers, Swarming and Hybrid Bees.

Written for the American Bee Journal
BY H. J. ROGERS.

There are many bee-keepers in this neighborhood, and they are all of the "old-fogy" sort. I met one the other day, who, hearing of my success the past year, asked: "Can you raise a queen when you have no queen-egg?" This is a sample of other questions, all equally silly. Of course he would not invest $1 in a bee-paper. He has kept bees for 50 years.

I predict a fearful mortality among bees in this section; not from lack of stores, but gross negligence in other details equally important. I can buy almost any number of colonies for $2.50 to $3.00, but I prefer to wait until the wintering problem is entirely solved.

I notice on page 824 of the BEE JOURNAL for 1887, that Mr. E. L. Holden speaks of having swarms issue in from 2 to 6 days after cutting out queen-cells, and putting back a swarm. I think that if he would wait two or three days before trying to find the cells, he would be more sure of getting them all; and he should remove two of the middle frames of brood and put frames of foundation in their place. This will be at once occupied by the queen, and brood-rearing will go on, while the desire to swarm is almost entirely overcome. Mr. H. should see that there is plenty of room in the supers at this time.

I shipped my honey last fall to a commission house in New York, and received 17½ cents per pound.

Is it a fact, that the honey stored by black or hybrid bees presents a much better appearance in the sections, than that stored by the Italians? My bees are hybrids, and when I can get 100 pounds to the colony in a good season, I do not believe it will pay to change. However, this may only be because I am a little old-fashioned myself.

In regard to bees roaring in winter, I would say that I never have heard bees roar in cold weather unless something was wrong internally.

Value of a Bee-Paper.

No bee-keeper, in my opinion, can afford to be without the AMERICAN BEE JOURNAL. It has certainly been worth $25 to me the last year! Some will smile at this, but I can furnish the figures to prove what I say. In the market reports alone, it more than pays back the "dollar," even though they may be somewhat unreliable—which I doubt.

Wintering and Transferring Bees.

Bees in this locality seem to be wintering well, although they are getting uneasy since the last "cold snap" stays so long (25 days). Yesterday it was cloudy, and the mercury was 30° in the shade, yet I noticed a few bees on the wing; of course none found their way back to the hives. I have bought 12 colonies in box-hives, which I shall transfer to Simplicity frames by the Heddon method. I want full sheets of foundation for the brood-frames; in no other way can I get perfect combs. I look for a good yield of honey this season.

Stannard's Cor., N. Y., Mar. 10, 1888.

[It is a fact that hybrid bees cap the honey in such a manner that a slight air-space is under the capping, and makes it appear a trifle *whiter* than other bees.—ED.]

BEE-CELLARS, ETC.

Cementing Cellars—Honey-Dew Called Manna.

Written for the American Bee Journal
BY JOHN B. LINDLE.

On page 41 I notice that Mr. C. H. Dibbern recommends cementing a bee-cellar. Has Mr. Dibbern tried such a cellar for bees? I have, and it is a failure with me. The bricks were laid in cement, the wall was 8 inches thick and grouted, with cement outside, arched, with 4-inch brick wall cemented outside, and the floor of brick, laid on cement. The inside walls were plastered with cement, but not back plastered. It is always wet and damp. I kept my bees in it, and lost over half of them. I now use it for storing pumpkins. It is an outside cellar.

Ten years ago I built a new cellar, with a house on top. The cellar is 32x16 feet, outside measure, has an 8-inch wall, with 4-inch studding from the ceiling some 4 feet down, is chamfered down at the lower end level with the wall, lathed and plastered all around with common caustic lime.

The windows are double and glassed. The chimney is midway along the foundation wall, with 4 bricks left out near the bottom for a ventilator. In this cellar I have wintered 270 colonies of bees, and lost but three during the winter of 1886–87. My cemented cellar is but 25 feet away. I can leave matches lay in the house-cellar for 4 or 5 days, and then light a candle with them. The walls are never damp.

Is Honey-Dew the Same as Manna?

Are those who reply to queries in the BEE JOURNAL, in accord with the following from the Agricultural Report for 1885, page 85?

"The nectar thus produced has a sweet and pleasant taste, and unquestionably forms at times no inconsiderable portion of our best honey; for bees are very eager in gathering it. The honey it yields is light-colored, has a pleasing taste, and is perfectly safe as a winter food for bees. The composition of honey-dew, as given by Bossingault and Zoller, is 48 to 55 per cent. cane-sugar, 28 to 24 per cent. of inverted sugar, and 22 to 19 per cent. dextrine. A little of the substance 'manite' has also been detected in it. This composition is exactly the same as that of the 'manna' collected by the monks at Mount Sinai."

Eureka! It is good to eat, good to feed, and has a scriptural name! Why not include all grades of extracted honey? What say you, brother bee-keepers? Call it *manna*.

Muscatine, Iowa.

THE "UNION."

The Apathy Among Bee-Men Regarding their "Union" for Defense.

Written for the American Bee Journal

BY B. F. LITTLE.

When the Bee-Keepers' Union was organized, thinking it a good thing, I became a member, and have paid perhaps for two years, but on account of the apathy of the bee-keeping fraternity, I dropped it. In California, where the most trouble was likely to arise, but a small number enlisted, so I thought the whole matter, so far as I was concerned, might go by default. But the way the matter looks now, no community has any guarantee of security.

Last year the Council of the little town of Clermont, Fayette Co., Iowa, deemed that no bees should be kept inside the corporate limits. Two bee-men had the choice of going out of the business, or move. One moved, and the other ceased keeping bees.

Last summer I was talking with Mr. ———, a short-hand court-reporter living in ——— county, Iowa, who, in reply to a question of mine, as to how he was succeeding in keeping bees, cursed the bees, and said that they were a nuisance; that he had got rid of them, and that his neighbors' bees had ruined his wife's flower garden by sucking all the sap out of the plants!

Last fall one of *my* neighbors claimed that my bees were taking all his grapes, saying the bees were thick on them. I have partially convinced him that it was the birds or over-ripe grapes that first did the damage. I am inside of the corporation, and no community is free from "cranks." If bee-men will let the golden opportunities slip, they will have themselves to blame.

Brush Creek, Iowa.

TEXAS.

My Experience in Keeping Bees in Texas.

Written for the American Bee Journal

BY A. C. ATEN.

The seasons of 1886 and 1887 were very poor here, most of those with box-hives and black bees securing no honey at all; but those with Italian bees and movable-frame hives generally got some surplus.

I began the season of 1887 with 85 colonies, increased them to 125, and obtained about 3,000 pounds of honey, all being extracted but 250 pounds.

My bees are in two apiaries, and have wintered well. They have been gathering pollen, and perhaps some honey, for over two weeks. There is no difficulty in wintering bees here, if we do not let them starve to death. The worst time we have in this part of Texas, is between the middle and last of March, directly after fruit-bloom. The bees use up all their honey in rearing brood, then comes a time when no honey can be found, and bees starve almost before we are aware of it. Let me say to Texans, beware of that time! You cannot be too watchful.

When they have exhausted their honey stores, they eat pollen, and it bloats them and causes the diarrhea, just as the bees have in the North, and that, too, when they can fly every day. I have seen this very often. But feed them honey or sugar syrup, and in a short time they will be all right.

The honey we got last year was of excellent quality. One of my apiaries is situated 13 miles, and the other 16 miles, north of the city of Austin; one being in a narrow strip of timber, and the other a half mile from any timber. The land is as rich as any upland in Texas. The bees gather honey from numerous kinds of trees and plants, conspicuous among which are horse-mint, hore-hound, wild marigold, morning-glory, asters, cotton and rich-weed, besides many other plants of lesser note. Then we have peach, pear, wild and tame plum, haw, elm, India-gum, wild and tame China, the wild China being the best. For the last two years horse-mint has been a failure here, but I have never failed to get a surplus.

There are but few persons giving much attention to bees in this locality. One of my neighbors has nearly 40 colonies of black bees in box-hives, and did not get a pound of surplus last year. He has an excellent situation. There must be some reason for this.

Round Rock, Tex., Feb. 18, 1888.

BEES IN A ROOF.

How to Transfer Bees from a Roof to a Frame Hive.

Written for the American Bee Journal

BY JAMES HEDDON.

I am requested to reply to the following from Mr. E. L. Plumb, Windsor, Conn. He asks:

Please inform me through the AMERICAN BEE JOURNAL, how and when to transfer bees from under the roof of a bay-window to the Heddon hive. The size of the roof is 6 by 8 feet. They have been there for three years, and are ½ mile from my place. The owner of the house gives me the bees, honey and comb, if I will remove them.

If Mr. Plumb had my book, and would turn to page 32, under the head of "Modern Transferring," he would perhaps get an idea of how I would transfer the colony of bees that he describes above.

I do not know just how they are situated, but believing that they are so housed that I could drive out of their home, about two-thirds of the bees, I should get the "New Hive" all ready with frames filled with comb foundation, and then drive out the bees as above, and with their queen put them into the new hive, and carry them four miles away; then in 21 days open the old hive, or bay-window, and cut out the broodless combs, put the bees and their new queen into another fully equipped "New Hive," and carry them away as before. I would extract the honey from the old combs, and melt them up for wax.

There is no objection to transferring any of this empty comb into brood-frames, provided it is straight and all worker. I would not advise piecing when transferring combs; neither do I

practice transferring combs containing brood or honey.

After a few weeks—say from two to four—the colonies in the "New Hive" can be brought to your home, when they will stay in their permanent location. This moving 4 miles away would not be necessary if you could move that bay-window 4 rods away. The old colony need not necessarily be doubled; if increase is not wanted, simply carry the last "drive" out to the new colony, and add them to it. Smoke them well, and the bees will not quarrel, being all from one queen, and the queens can be allowed to fight it out, or you may destroy one, keeping your preference.

I would no more think of doing any old style of transferring than storing surplus comb honey in starch boxes.

Dowagiac, Mich.

HIVES—FRAMES.

Dimensions of Hives and Number of Frames.

Written for the American Bee Journal

BY J. R. ROEBUCK.

This is the subject of Query 514, on page 85. It is a very important one to the bee-keepers, but more so to the bees. I think that my experience of 25 years with bees, and a number of contraptions called bee-hives (some of which cost me a good deal of money, and more vexations and trouble than all of them are worth), enables me to answer some of "Maryland's" query; hence I would like to add my views on this subject, with the answers given to the query.

As well might "Maryland" ask what size of harness a farmer uses on his horse. I cannot think of anything better to illustrate my idea than a comparison of a horse and its harness. That noble animal would be of little worth, so far as working it is concerned, without a harness suitable to its size and strength. So with a colony of bees, they are of little use unless they are in a hive suitable to their numbers.

It has long since been discovered that we either must have as many sizes of harness as there are horses to be worked, or that the harness must be made adjustable by means of buckles, etc.; the latter being adopted to be the most practicable. It seems to me that such ought to be the case in reference to bee-hives.

I will take the query in its order, viz: I. What number of square inches of comb surface should be in a hive? If I were to harness a horse, I would try to get the harness so buckled that it would fit up nicely and comfortably all around the horse for which it was intended, whether he was large, small, fat or lean. In giving comb surface to a colony of bees, I would use the same judgment, and give only so much as would nicely accommodate the number of bees in the colony; I believe that any more or less is not only unnecessary, but actually injurious to the bees, the same as a harness is injurious to the horse if too large or too small.

I imagine that I here some one ask, *How much is needed?* I would measure the surface needed by the amount which the colony can comfortably fill when the temperature is so that bees fly freely, say at 60° to 70°. A short and yet a correct answer to this part of the query would be, a frame of comb to any number of inches that a colony can fill comfortably, and no more.

2. What distance should brood-frames be from centre to centre? For the brood-nest I would recommend them to be 1 7-16 inches, irrespective of the top or end bars of the frame; if for extracting, the distance, I think, should be more, say 2 inches, or even more.

3. What are the inside dimensions of the frame you use? I use a frame 8½x12 inches, which is equal to, as the bees usually fill them, about 200 inches of comb surface.

4. What numbers of frames in each hive do you use? I use from one to sixteen, according to the size of the horse—colony, I mean. In connection, let me say that my surplus cases rest on top of the frames, and are adjustable so that I can use 3 to 36 one-pound sections without tiering up; and by tiering up, as many hives more as the bees can fill.

Burton City, Ohio.

EMPTY COMBS.

Utilizing Empty Combs, Room for the Queen, etc.

Written for the American Bee Journal

BY M. S. ROOP.

It is often asked, what to do with empty combs. Some say, render them into wax, hire some one to take them away, or hive young swarms on them. It seems strange that when it takes so many pounds of honey to make one pound of wax, that any one would advise destroying this valuable comb.

It would be a nice idea to hive a swarm of bees on empty frames, right in the beginning of the basswood honey flow, and keep fully one-half of them busy building comb below, until the honey-flow is over!

I know several bee-men who are too stingy to buy foundation, and while their bees are filling up the brood-chamber with worthless drone-comb (which they will do when there is a good flow of honey), my bees are storing honey in the sections; then they will say to me, "How in the world do you get so much more honey than I?"

Suppose the bees do crowd the queen; give them room above as fast as they may need it, and it will be seen that they will elevate the honey as fast as the queen needs the room below. Why will not the bees in a young colony move the honey above, just the same as the bees do in the hive they came from?

Carrying Honey above the Brood.

Some one has said that, as soon as the young queen begins to lay, the bees will move the honey above as fast as she needs the room below. This is strange. Black bees will often fill their hive with honey, and then stop work. The way to do with them is, to extract their honey late in the day, taking it out so clean that they will not have enough for "breakfast;" then it will be seen that they will go to work at once. A rule that will work to perfection in the Eastern States, will ruin bee-keepers in Iowa.

Bees are wintering very nicely in this vicinity.

Council Bluffs, Iowa.

INDIANA.

The Bee-Keepers of Tipton and Hamilton Counties Convene.

The Bee-Keepers' Association of Hamilton and Tipton counties met at Westfield, Ind., on Feb. 4, 1888, and were called to order by the President, Dr. E. H. Collins.

The minutes of the previous meeting were read and adopted, after which the society listened to a very instructive address from the President, making suggestions for the benefit of the association; the first being that it appoint a reviewer, whose duty it shall be to correct any serious mistakes that might be made in our meeting, and read them at the close of each session;

Secondly, that the executive committee be directed to make out the programme during the first of the intervening months, and notify persons of whom work is expected at the ensuing meetings of the Association; and

Thirdly, that the executive committee appoint at least one person for each meeting to experiment on some subject to be agreed upon; so that we may have at least one idea well defined.

Orren Maker was appointed reviewer for the day.

Dr. Test then read an interesting essay on the "Agency of insects in producing color in flowers," of which the following is a brief synopsis: "Many insects, especially bees and butterflies, have an acute color-sense. The exhaustive process of flowering has a tendency to give autumnal tint to leaves near a flower cluster. Insects capable of appreciating and remembering colors, would then have a mark to guide them when hunting pollen for food. Cross-fertilization would then be aided, and more vigorous plants with more showy blossoms would be produced; the color-sense in insects would become as pleasurable as useful, and the gaudiest insects would be most attracted to their mates and leave the most numerous offspring, till in time the plants passed from the unvarying green of the coal age, to the floral magnificence of the present time."

J. D. Bray read an essay upon "Doing your work by others' methods."

Dr. Abbott read an essay written by his son, on "The artistic side of bee-keeping." He said a great many articles are judged mainly by their appearance, and honey is one of them. These are a few simple, primary rules for preparing honey for the market:

1. Extracted honey should be carefully strained through two thicknesses of some kind of thin cloth, before bottling.

2. Clear flint-glass jars should be used, for common green glass makes the clear golden yellow of the honey look a muddy, greenish yellow.

3. Plain, neat labels with the name of the producer, kind of honey, etc., should be used.

It would be well for honey producers to profit by the above suggestions.

A few of the members are raising Alsike clover, and find it good for both bees and stock.

The meeting then adjourned, subject to the call of the executive committee.

H. O. ESTES, *Sec.*

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Apr. 11.—	Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.
Apr. 21.—	Eastern Indiana, at Richmond, Ind. M. G. Reynolds, Sec., Williamsburg, Ind.
Apr. 24.—	Des Moines County, at Burlington, Iowa. John Nau, Sec., Middletown, Iowa.
May 2, 3.—	Texas State, at Greenville, Tex. B. F. Carroll, Sec., Blooming Grove, Tex.
May 5.—	Susquehanna County, at New Milford, Pa. H. M. Seeley, Sec., Hartford, Pa.
May 7.—	Welland County, at Welland, Ont. J. F. Dunn, Sec., Ridgeway, Ont.
May 8.—	Cortland Union, at Cortland, N. Y. W. H. Beach, Sec., Cortland, N. Y.
May 19.—	Nashua, at Nashua, Iowa. H. L. Rouse, Sec. Ionia, Iowa.
Aug. 14.—	Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Worst Part of the Winter.—G. M. Doolittle, Borodino, N, Y., on March 7, says:

According to that old "saw," regarding the bear seeing his shadow on Feb. 2, we were to have warm weather right along from that time on, but contrary to this we are having at this time, and for the past week, about the worst part of our winter, as far as cold and wind are concerned. Mercury at zero, or nearly there, is the order of the day in this locality, with no flight for our bees since last year. I almost envy those who report "bees flying," for I know that such with me, meaus safe wintering:

The Carniolan the Coming Bee.—H. W. Carman, Hardinsburg, Ky., on March 6, 1888, writes:

My bees are in better condition now than ever before at this time of the year. I commenced the season of 1887 with 10 weak colonies, moving them 16 miles on a road-wagon, over a very rough road, about the middle of February, 1887. One colony was Carniolans, and the balance were Cyprians. I increased them to 21 colonies. I sold 10 colonies at $7.50 per colony, and took 150 pounds of golden-rod honey in October. I have 11 colonies, 10 colonies Carniolans, and 1 colony of Cyprians wintered on the summer stands. I have not fed a pound of syrup or anything else. I hope to do a great deal better the coming season. I consider the Carniolan bee the "coming bee."

Use of Comb Foundation in the Sections.—Thos. O. Hines, Anamosa, Iowa, on Feb. 18, 1888, writes:

The inventor of comb foundation gave it the right name, for it is that and nothing more. Bees do not draw the wax out into cells. At the Nebraska convention some advocated putting in the hives all that could be put in, thus relieving the bees of secreting this wax. I cannot see that it saves what the bees would have to secrete to build this middle wall. I have often scraped the honey from the foundation, and have found it as perfect as when put in. I use heavy foundation the full size of the frame, and wired, for extracting, because they are stronger, and can be used oftener. In the brood-nest I use starters 1½ inches wide, because I can get straighter combs; if used wider than 1⅔ inches, they get wavy.

I have a fine lot of unfinished sections, and I wish that I had as many more. I put these unfinished sections over the frames, and let the bees clean them out, when I carefully put them away, and use them next season. I can see no difference in quality from new ones.

I use starters in sections cut V-shaped, the full width. The "extra thin" foundation is the best. I cut the starters with a warm knife, and then use a plate just hot enough so as not to burn the wax. I put some pure wax on it, and when melted I take a section in my left hand, the grooved side up, and a piece of foundation in my right hand, which I wipe across and back over the plate of wax, and insert it in the groove. In this way I can put in 1,000 a day. I place my hives on the level so that the starters hang plumb, and in this way I get straight combs.

Rescue the Oppressed.—P. J. England, Fancy Prairie, Ills., on March 10, 1888, says:

I rejoice to know that I am one of the charter members of the Bee-Keepers' Union. It does seem to me that any bee-keeper with a soul as big as a "peanut shell," would come to the rescue when he knows that his brother is languishing in jail!

The Season of 1887.—W. H. Graves, Duncan, Ills., on March 8, 1888, says:

My report for 1887 is soon told. I wintered 96 colonies through the winter of 1886-87, and then doubled them down to 80 colonies. I never had bees in as fine condition as mine were on June 1. We all know what followed, and there is no use to repeat, suffice it to say that I took off less than 100 pounds of honey. I am very sorry that I put on a super. I cannot say how my bees are going to come through this winter. I have 45 colonies in the cellar, and 35 colonies on the summer stands.

Reversible Hives.—R. L. Crocker, Lockport, N. Y., on March 5, 1888, writes:

I notice that in the report of the New York State Bee-Keepers' Convention, on page 137, I am made to say that, "I am not as yet fully satisfied with the Heddon hive, and do not think it is the hive I want." Now that is not just the way I meant to be understood, but I should have said that I am not as yet fully satisfied that it is the hive I want, without further trial; for I am very much pleased with it for the first season, and have not had a chance to test it for the second season's work, only to a limited extent, and during a very poor season at that. So I am not fully satisfied that it is *not* the hive I want. I make this statement as only what is due Mr. Heddon and others who might wish to try the hive, and be deterred thereby after reading the report of the convention.

Hunting Bees, Ventilation, etc.—Frank Stephens, Hageman, Ind., on Mar. 10, 1888, writes:

In hunting bees in the woods for ten years, I found about 100 swarms. I found one good swarm that had 350 pounds of fine honey, in an ash tree.

During my experience in hunting bees I found several swarms in trees about 30 feet high; two trees had their tops broken off. The bees had been in trees for two years, that I know of, and the entrance was 8 inches in diameter. They wintered well,

and had lots of honey. They had upward ventilation. I have had bees in hollow logs several times, but I lost all of them.

I saw an article on page 811, referring to ventilation. I differ from that writer in regard to lower ventilation. Last spring my colonies did not have the diarrhea. I had the inside cellar door open every night into the pantry. When I would go down to the bees, they were perfectly quiet ; I could not hear one bee hum. I think that upward ventilation proves to me to be the best.

Last year was a poor one in this locality. My 14 colonies were all strong in the spring, except 4 that were short of stores. I got about 300 pounds of comb honey in one-pound sections, and the increase was 11 swarms, secured by natural swarming, which gave me 25 colonies. These I put into the cellar on Oct. 5, 1887. They had a flight on Feb. 18. They are quiet in the cellar, but they had the diarrhea badly.

No Loss in Wintering.—G. W. Cole, Canton, Ills., on Feb. 29, 1888, says :

I have wintered 11 colonies of bees on the summer stands without loss. I used no protection, only covering them to the depth of 4 or 5 inches with planer shavings on the painted muslin, which I use for summer cover on the frames. I do not think that it is necessary to remove the summer cover, and put on porous cloth for winter.

Honey-Comb or Wax Becoming Honey.—Mrs. I. J. Glass, Sharpsburg, Ills., on March 5, 1888, says :

Having several times heard it stated that *honey-comb*, when mixed with extracted honey, when grained or candied, would turn to honey (the comb or wax); and not finding it so in my own experience, I come to the BEE JOURNAL, hoping that I will state it plain enough so that I may find an answer. The question is this : Will honey-comb or wax become honey, when mixed with extracted honey, either when granulated, or before that process takes place ?

[No. "Wax" and "comb" are not the same, and never become such.—ED.]

The Canadian Convention Report.—Concerning Mr. Clarke's strictures on page 104, R. F. Holtermann, Brantford, Ont., remarks thus :

As Mr. W. F. Clarke has made some unwarranted comments on page 104, upon my report of the late meeting of the Ontario Bee-Keepers' Association, I wish to say that the spirit of his letter is manifest. Upon looking at the report which I made, the injustice of his attack is also manifest. I must admit, that when reporting conventions of bee-keepers, it would sometimes appear rather unfortunate that I stand in the relationship of "son-in-law" to one who is well and favorably known as a practical and successful bee-keeper, and one whose opinion is valued, and whose "sayings and doings" are reported amongst bee-keepers, not only in Canada, but the United States and Great Britain ; and who also was President of the association, and occupied the chair. Under these circumstances, unless I follow the very rare practice of mentioning in my report that "President occupied the chair," without mentioning who he was, and unless I excluded the President's address, I am entirely innocent of reporting "the sayings and doings" of my very estimable father-in-law.

Then as to myself, I may have been a little presumptuous in giving a brief description of the bee-cellar that I was about to build, but even here I was honest enough to give Mr. Jacob Alpaugh credit for being the father of the plan. I thought the plan so valuable that I adopted it, and will certainly be pardoned for thinking it a sufficiently valuable one to report ; but I might have excluded my name, merely mentioning that "some one" said this.

Now as to the "most interesting discussions" which are omitted. In a condensed report which the AMERICAN BEE JOURNAL, with so much matter of value on hand, could only find room for, much must be excluded, and it must then be a matter of judgment as to what shall remain ; and when matter of equal value has to be decided between, that which is newest to the readers of the paper you are reporting for should have the preference.

If Mr. Clarke means to say that I was absent when important matters were brought up, permit me to say that I always take full reports of meetings, and attend such sessions as I agree to; but Mr. Clarke can hardly mean this—this would be too dangerous ground for him to tread upon.

As to the position which I reported Mr. Clarke to have taken upon the honey extractor, I may here again have failed ; I should either have excluded this as valueless, or perhaps Mr. Clarke will think I should have reported him at greater length; but I again state deliberately that some objected to Mr. Clarke's remarks, openly saying that we would have "strained" honey, if not extracted, and the feeling of our best bee-keepers was that the views expressed were not worth contradicting ; he condemned the extractor—and no one else.

[Now that both sides have had an "airing of their views," let the matter rest. We have no room for such controversies.—ED.]

Victory or Death.—R. B. Woodward, M. D., Somerset, O., on March 9, 1888, writes as follows :

I send you to-day my dollar for the National Bee-Keepers' Union. I did not realize the importance of the Union until I read the persecution of Z. A. Clark, of Arkadelphia, Ark., on page 148. I think that now is the time to fight for our rights against *ignorance* and *cussedness*, and that our contribution to the "defense fund" shall be liberal, and sufficient to employ capable attorneys. It is now *victory*, or *death* to the pursuit. I have no financial interest in the matter, as I only keep a few colonies for pleasure, and honey for family consumption.

[Yes ; it is now or never. If the present suits against bee-keepers are allowed to go against them, then it is "all up." Every bee-keeper who happens to have jealous neighbors would then have to obey the order to *move on*, like the poor Indian, until he is driven out of the country.—ED.]

Bees and Poultry.—W. C. Coffman, Pewamo, Mich., on March 5, 1888, writes :

I was somewhat surprised when reading the article by H. M. Cates, on page 123. My experience is different from his views about keeping poultry with bees. I let my Plymouth Rock and Wyandott chicks roam about the bee-yard and fields from early spring until fall, and in the past three years not more than one-half dozen chicks has been attacked by the bees, and those were some that would stand in front of the hives and peek in at the entrance, until a bee would persuade the intruder to move along, by stinging them usually about the head. The same chick does not stop to look for any bugs or worms about that hive, but moves on as fast as it can. I have never had a chick die from the effects of bee-stings, and I raise 200 each year. Those who wish to keep poultry with bees, can do so without any trouble, as the bees will not kill the fouls, and they will receive as large profit for the money invested in poultry, as from any other rural pursuit. Bees in this locality are wintered in cellars, and are in fine condition.

Taxing Bees in Illinois, etc.—John Davis, Birds, Ills., on March 1, 1888, says :

It is rather early yet to report, but my bees have wintered splendidly this winter, with no loss so far. That is so much for chaff hives. I never have lost any bees in in wintering. In this neighborhood bees have wintered well so far. Does the law require us to pay a tax on bees in this State?

[Yes ; bees are taxable in the State of Illinois.—ED.]

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote : Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI

HONEY.—We quote extracted at 4½@9c. per lb., for which demand is good. Comb honey, 14@17c.—Supply large and demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Mar. 11. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote : Fancy white in 1-lb. sections, 14@17c.; the same in 2-lbs., 12@14c.; buckwheat 1-lbs., 10@11c.; 2-lbs., 9@10c. White extracted 8@9c.; dark, 5½@6c. Market dull; prices declining.
BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Mar. 10. 28 & 30 W. Broadway, near Duane St.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 17@18c.; 2-lbs., 15@16c.; 3-lbs., 14c. Dark and broken not quotable. Extracted, white in kegs and ½-barrels, 8½ to 9c.; in tin and pails, 9½@10c.; dark, ½-barrels and kegs, 5@7c. Market slow.
BEESWAX.—22@25c.
Mar. 10. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote : Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Feb. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote : 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Feb. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote : White to extra, 15@18c.; amber, 13@16c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.
BEESWAX.—20@24c.
Feb. 18. SCHACHT & LEMCKE, 122-124 Davis St.

DETROIT.

HONEY.—Best white in 1-pound sections, 16@17c. Extracted, 9@10c. for light colored. Market weaker and supply only fair.
BEESWAX.—22@23c.
Mar. 14. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections; 2-lbs. or about, 14@15c. Dark is slow of sale, with no steady price. Extracted moving slowly. Offerings of all kinds are large. Demand better.
BEESWAX.—22@23c. R. A. BURNETT,
Feb. 16. 161 South Water St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.,; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Feb. 9. CLEMONS CLOON & CO., cor 4th & Walnut.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST IN AMERICA — BEE PAPER

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

The Convention. — The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Why Advertise in the AMERICAN BEE JOURNAL? Here are some good reasons:

1. Because it has a large and influential circulation in every State and Territory, Canada, and other foreign countries.

2. Because it is well-printed, and an advertisement in it appears neat and attractive, and invites a reading.

3. Because it reaches just the class of persons desired—professional men, lawyers, doctors, and the best of the rural population.

4. The rates are low as possible, and the returns from advertisements are satisfactory.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered very soon. We are promised an early spring, and a good honey crop.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Advertisements.

FOR SALE—Large Apiary with appurtenances. Reason, bad health. Address,
12A1t DR. G. W. YOUNG, Lexington, Mo.

IMPORTED QUEENS.

FRIENDS: I have QUEENS in my Apiary as fine and as good as you can import to the free land of America. Yes, I mean just what I say! My Bees equal any that ever spread wing 'neath the sunny skies of Italy. You have but to try them and be convinced. From now through the season, Untested, $1; Tested, $2; Select Tested, $2.50; Standard Breeders, $3.00. BEES by the lb., $1; Frame of Brood, 75 cts.
R. H. CAMPBELL, (Lock Box 215),
12E12t MADISON, Morgan Co., GEORGIA.

ALSIKE CLOVER SEED

FOR SALE at $6.00 per bushel. With 2 bushels of seed, sack is free; for less than 2 bushels, sack is 25 cents extra. On board the cars at Mauston. Address,
J. T. SMITH,
12A2t MAUSTON, Juneau Co., WIS.

THAT CANADIAN LOCOMOTIVE

IS Nowhere compared with **Eden's Patent Comb Foundation Fastener.** It will fasten foundation of any size or shape from ½-inch to full sheets, in 1, 2 or 4 piece Sections, either before or after they are put together, at the rate of 600 to 800 per hour.
For **neatness** and **strength** it cannot be excelled. Not a particle of foundation wasted. No melted mixture used. Can be adjusted to different sized Sections, will work in any temperature, and will last a lifetime. When you order, send sample Section.
Price, Single Machine..... $5.00
" Combined " 6.00
Address, **ED. S. EDEN,**
ST. CHARLES, MICH., U. S.,
12A12t and **Woodstock, Ont., Can.**

Electrotypes of Engravings.

WE can furnish Electrotypes of all the Engravings used in this JOURNAL or in our Catalogue, at **25 cents** per square inch. If to be sent by mail, add 10 cts. for postage. No single Electrotype sold for less than 25 cts.
Measure from outside points shown, on both length and width of the printed impression.
THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILLS.

2-Story Langstroth Hive, 80c.

WE still have a few of those Two-Story **Langstroth HIVES** with 10 Brood-Frames, at **80 cents.**
Who wants them? Speak QUICK, or it will be too late. Address,
SMITH & SMITH,
10Etf KENTON, Hardin Co., OHIO.

Nothing Succeeds Like Success.

HOW I **Produce Comb Honey.** TEN years' Experience. First Thousand sold in four months. By mail, 5 **cts.** each; $3.00 per 100. My illustrated Price-List of Supplies for the Apiary, **Bees, Queens, etc.,** FREE.
GEO. E. HILTON,
51Atf FREMONT, MICH.
Mention the American Bee Journal.
☞ May also be obtained at this office.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

G. B. LEWIS & CO.

WE make the best Bee-Hives, the best Sections, the best Shipping-Crates, the best Frames, etc., etc.
☞ We sell them at the Lowest Prices.—Write for free Illustrated Catalogue.
G. B. LEWIS & CO.,
37Atf WATERTOWN, WIS.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. April 4, 1888. No. 14.

EDITORIAL BUZZINGS.

It Pays to wear a smiling face,
And laugh our troubles down,
For all our little trials wait
Our laughter or our frown.
Beneath the magic of a smile,
Our doubts will fade away,
As melts the frost in early spring
Beneath the sunny ray.

This is Our Special SPRING Number—the first in April—and contains six more pages of reading matter than usual; the rest of the extra pages being devoted to advertisements. The articles are very interesting and valuable, and we hope the advent of this large number of the AMERICAN BEE JOURNAL will formally usher in and give a general

Welcome to Spring.

Do Not strike at a bee, jar the hive, nor breathe on the bees.

Don't Believe It!—If you should see an advertisement agreeing for two stamps to tell you all about bee-keeping, and how to make $25 per colony out of your bees, don't believe it.

It is Poor Economy to use old and dirty sections for comb honey. It will pay better to commit all such to the flames, and buy new and clean sections for new and delicious honey. New sections are so cheap now that there can be no excuse for using old ones.

Be Sure to order your hives, frames, sections, comb foundation in good time to have them at hand when they are required. It is poor policy to wait until such things are needed before ordering them.

False Charges.—The *Farmer and Stockman* published at Sioux City, Iowa, indulges in this little bit of ridicule:

What an array of tools the honey-bee would have to carry if the charges against it by its enemies were true. According to these enemies, the bee can "bite," "pierce," "tear," "cut," and "drill" their way into fruit and flowers, and "suck, draw, drain, eat and devour" the juices and pulp of said flowers and fruit. The next thing we may expect to happen, will be the grocers charging the bees with coming into their stores, boring holes in the syrup barrels and carrying off the contents.

This is to refute a silly item going the rounds of the press, which says:

Instinct of the honey-bee is admirably set forth in their practice of cutting into the base of flowers of which the corolla is too deep to be penetrated by the organs of feeding.

Their jaws are not formed for cutting into the base of flowers or anything else! What nonsense!

From Early Spring until the Honey-Flow, it pays well to feed every colony a little daily, even if they have an abundance of honey in the hive. It stimulates brood-rearing, and it is only by such judicious feeding that we can bring a colony up to the highest condition. It is from such that we reap the richest reward during the honey season. Such colonies are usually ready to swarm two weeks earlier than others, and powerful swarms result, instead of "hat-fulls." Whether bees are wintered in cellars or in chaff hives, they should remain in their winter quarters until settled warm weather comes in, which may be from the middle to the last of April, and sometimes even later.—*American Agriculturist for April.*

Hang the Adulterators.—The Clearwater, Calif., *Record* advises the hanging of the adulterators of the various kinds of food for humanity, and adds:

One of the city papers complains of the adulteration of foods and drinks, so extensively practiced in this country and age. This is a subject concerning which a great deal of righteous indignation has been poured out, through the press and otherwise, but as yet no practicable laws or plans have been adopted for stopping the almost universal practice of adulterating foods and drinks, by reason of which human health and life are being sacrificed at a fearful rate. The man who deliberately puts deleterious ingredients and health-destroying poisons into food which he knows will be sold to unsuspecting victims, is far worse than the average murderer.

And yet our National *Chemist*, who is paid for defending us against the nefarious schemes of adulterators, actually works in their interests, and defends them in their diabolical work.

Reports on the Heddon hive are still coming in. So far, 78 reports have been received, covering the use of over 2,000 hives. As to choice, 56 prefer the new Heddon hive, and 22 have not fully decided, or prefer some other kind.

It Still Lives.—In enumerating the many bee-papers of the present day, Mr. C. H. Dibbern, in the *Plowman*, remarks as follows:

One of the most remarkable things connected with bee-keeping is the great increase of papers and magazines devoted exclusively to the pursuit. About 25 years ago the AMERICAN BEE JOURNAL was started at Washington by the late Samuel Wagner. It was prophesied at the time that it would be short lived, that a journal devoted to one pursuit could not exist long. It still lives, however, and to-day is the largest and best bee-paper we have.

Bro. Dibbern has our thanks for his appreciative remark. Yes; the AMERICAN BEE JOURNAL still lives, and instead of being, as formerly, a monthly at $2.00 a year, it now comes out weekly, and is published at $1.00 a year—only 2 cents a number—and it may also be stated that it never was so strong and vigorous as it is to-day! That is what they all say, and just what we all know is the plain and unvarnished truth. May it long live to uphold the interests of the pursuit, and be the beacon-light of generations yet unborn!

Contraction, etc.—F. B. Reynolds, Rossburg, N. Y., asks as follows:

Bees are doing nicely, only 3 colonies being dead out of 35, and they were queenless. Please answer the following: 1. Is it necessary to contract the brood-chamber at this time of the year, to get good results? 2. What is the cause of my foundation cracking and breaking to pieces? I made a mold and got a perfect cast, but the foundation cracked and broke to pieces. I followed the directions as given on page 173.

1. Not absolutely and always—but it is preferable to do so.

2. Probably the trouble is in handling it in cold weather; but it may be caused by something else. We have never used "molds," and know nothing of the methods to be employed, more than we have already published.

Fertilizing the Clover.—A painstaking person made some experiments relative to the fertilization of the clover heads by bees, and this was the result:

Of white clover, ten heads unprotected gave nearly ten times as many seeds as ten heads covered with gauze; twenty heads covered produced only one poor seed, and twenty heads open gave 2,290 seeds.

Of red clover, 100 heads covered gave nothing, and 100 heads open produced 2,720 seeds.

Insects will abundantly cross-fertilize plants growing ⅛ to ½ mile apart.

Bee-Keeping in the South.—Mr. James M. Lisenbey, at the late session of the Florida Fruit Association, said:

Everything should be in order about the apiary. Let everything be perfectly clean about the hives, the grass and weeds cut from about the entrances. The bee-keeper should work with gentleness and care, avoiding jarring movements or anything that will agitate the bees. Care should always be taken that each hive contains a queen. If any are found to be queenless, they should be supplied with brood from some strong colony, or doubled up with a weak colony.

GLEANS OF NEWS.

The Wiley Lie in England.—Our respected cotemporary in England, the British *Bee Journal*, contends that its statement is true, about the existence of the American "adulterating bee-farms," located in the "far West." It says on page 126:

On page 98 we reprinted the reproof of the editor as it appeared in the AMERICAN BEE JOURNAL, without comment on our part, and have made inquiries, and find that, so far as we can gather, all said in the article headed "Facts," is true. The clergyman who supplied the information, and whose name for obvious reasons we withhold, is a well-known dignitary of the church, whose word we cannot for a moment doubt. Whether he was a victim to a fraud we cannot say, but he further informs us: "The farm I was on was 15 miles from Kansas City. I do not remember the name, but there are plenty of them in the Western States." Perhaps, this will give American bee-keepers a clue to the detection of those unprincipled adulterators who are doing so much harm to bee-keeping.

It matters not whether the informant is a "dignitary of the Church" or not. The statement about the adulterating bee-farms in the United States, is a positive falsehood—such do not exist near Kansas City or at any other place in America. The "clergyman" was *deceived*, if he really thinks he was on such a farm!. And if so, it is his *duty* to attempt to clear his skirts, by naming the place and the person who practiced such deception upon him! Out with it, Mr. Clergyman!

Again, our British cotemporary makes this assertion:

Our article was based on the above information, and we also gave an extract from a magazine, *The Monthly Magazine of Pharmacy, Chemistry, and Medicine* for December last, part of which—"So much like the genuine article that only experts can detect the difference"—the AMERICAN BEE JOURNAL considers the British *Bee Journal* to have said, but which was only a portion of the quotation from the *Monthly Magazine*.

There again the British *Bee Journal* is mistaken—we copied on page 52, its exact words, which were:

The latter of these scientific bee-keepers [the manager of the "adulterating bee-farm."—Ed. A. B. J.] is best described in the following quotation FROM A MAGAZINE of this month.

No; no, we made no such mistake! Immediately following the above, was the statement that "ARTIFICIAL HONEY" in "racks" was "now MADE in New York," so much like the genuine article that only experts can detect the difference." Merely another version of the infamous Wiley *lie* to cause another *rack*-et!

Finally, the editor of the British *Bee Journal* avows his disbelief in the story from that "Magazine of this month" in these words:

Naturally, subjects coming from a *Professor* would be considered facts, and we hope that our informant was deceived, although we must point out that there is a difference between "artificial combs" as described by Prof. Wiley, and which no bee-keeper for one moment would believe it possible to produce, and the productions of combs by feeding, which is not at all impossible, as every bee-keeper will know.

Had our cotemporary thought far enough ahead last December to have come to this conclusion, that infamous citation would not have been *endorsingly* given! This is an after-thought of the *real* editor—the other was the blunder of a subordinate!

It seems to us that it would have been far better to have admitted the blunder, than to have attempted to defend it, and to have so signally failed!

We quite endorse the language last quoted, that "no bee-keeper for one moment would believe it possible to produce" the "artificial combs as described by Prof. Wiley!"

But how peculiar does that assertion appear when placed side by side with what that editor *endorsingly* copied into that original article entitled "Facts," viz:

The latter of these scientific bee-keepers is best described in the following quotation from a magazine of this month: "Artificial honey now made in New York is so much like the genuine article that only experts can detect the difference. It is in racks, the same as the natural product, and now and then the wings and legs of a few dead bees are to be seen to further the deception. It can be sold at a profit of 5*d*. per pound.

"Mistakes will happen in the best regulated" periodicals—but when the error is pointed out, it is better to acknowledge it than to try to defend it!

The Weather is varied enough to suit the most fastidious. We have all the varieties within 24 hours, with a change of 60° of temperature. Mr. Eugene Secor, of Forest City, Iowa, on March 26, 1888, wrote us thus concerning the weather in his locality:

The past week has discounted the stories of "the oldest inhabitant." One week ago we had a foretaste of Florida; immediately following, the rigors of Nova Zembla. One of the worst blizzards of the winter came close upon the heels of a balmy spring day, when geese were winging their way to the northern lakes, when robins were calling their mates to the familiar haunts in the orchard and lawn, and the bees (if in the open air) were sporting in the joyous sunshine. This is a country of mighty possibilities!

My bees are still in the cellar, and will stay there until the weather settles, "if it takes all summer."

Yes; by all means let the bees remain in winter quarters until settled warm weather has come.

New Catalogues for 1888 are on our desk, from the following persons:

The D. A. Jones Co., Ld., Beeton, Ont.—20 pages—Bees and Supplies.

A. O. Crawford, South Weymouth, Mass.—20 pages—Honey Labels.

E. L. Goold & Co., Brantford, Ont.—22 pages—Bee-Keepers' Supplies.

G. K. Hubbard, La Grange, Ind.—12 pages—Hubbard Bee-Hive.

Abbott Brothers, Southall, England—72 pages—Hives and Bee Furniture.

E. W. Reid, Bridgeport, O.—24 pages—Small Fruit.

Woodman—Spare that Tree, is the first line of that old song so popular when we were a boy. It forcibly came to our mind when reading the following in the *Plowman* from the pen of Mr. C. H. Dibbern:

Last month I made some suggestions to the farmers to sow Alsike clover, buckwheat, and other crops of value for honey. Something can also be done to keep farmers and others from destroying trees, and other honey resources we already have. A number of years ago a neighbor and friend of mine was thinning out a wood lot of some 35 acres, near my apiary, by cutting out about three-fourths of the timber. This lot contained a good many basswood or linden trees that I had watched jealously. As they were not regarded as of much account for timber, I soon discovered that they were being cut down, and ash, oak and butternut left to grow. I had on several occasions given him a present of a few pounds of honey, and I now explained to him the value of the basswood trees for the bees. He at once agreed to let all the good shaped trees of this variety grow, and now I have some forty splendid linden trees within easy range as the result. The man is now dead, but whenever I see these magnificent trees, an impulse of kind remembrance comes over me. Perhaps others can do something on this line with their neighbors also. I have hundreds of linden trees within reach of my bees, but these are so near that they are of special advantage.

Much can be done to save the the honey-producing trees if attended to judiciously, and in the right spirit. The hint of Mr. Dibbern is a good one, and we hope will be acted upon by others.

Among Hints to Beginners, an exchange gives the following items of information:

Never crush a bee if you can help it.

Bees will not follow one into a building.

Newly-hived swarms should be placed in the shade.

It is easiest to manipulate bees when they are gathering honey.

Let all your movements be slow and regular, if you would not be stung. Do not be nervous or fidgety when working with bees.

The proboscis of the bee is moved like the trunk of an elephant, and is susceptible of expansion and contraction, and of being bent and twisted in all directions.

The Old Reliable "American Bee Journal" donned a new dress with the new year, and looks as neat and clean as a new dollar. It gives the latest news in bee-keeping, and we never knew a bee-paper that could take its place. Long may it prosper.—*Western Farmer and Stockman.*

CONVENTION NOTICES.

☞ The annnual meeting of the Western Bee-Keepers' Association will be held at Independence, Mo., at the Court House, on April 25, 1888. It will be carried on as a sociable, friendly gathering. Let all bring their baskets and have a good time.

PETER OTTO, *Sec.*

☞ The next meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on May 5, 1888. The following subjects are to be considered: Bee-keeping for pleasure and profit—Spring work with bees—Is it advisable to use foundation? If so, to what extent?—How can we make our Association of the most practical value to its members. All are cordially invited to come.

H. M. SEELEY, *Sec.*

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Apr. 10.—Wabash County, at N. Manchester, Ind.
F. S. Comstock, Sec., North Manchester, Ind.

Apr. 11.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Apr. 14.—Union, at Menlo, Iowa.
Mrs. J. E. Pryor, Pres., Dexter, Iowa.

Apr. 21.—Central Michigan, at Lansing, Mich.
W. A. Barnes, Sec., DeWitt, Mich.

Apr. 21.—Eastern Indiana, at Richmond, Ind.
M. G. Reynolds, Sec., Williamsburg, Ind.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

May 2, 3.—Texas State, at Greenville, Tex.
B. F. Carroll, Sec., Blooming Grove, Tex.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 7.—Welland County, at Welland, Ont.
J. F. Dunn, Sec., Ridgeway, Ont.

May 8.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

May 19.—Nashua, at Nashua, Iowa.
H. L. Rouse, Sec. Ionia, Iowa.

May 22.—N. W. Ills. & S. W. Wis., at Rockton, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Good Prospects for the Season.—A. C. Aten, Round Rock, Tex., on March 22, 1888, says:

Bees are doing well so far. There has been no freeze or frost to amount to anything for the last six weeks, and we have had plenty of rain. The prospecls are good for an excellent honey crop.

Abnormal Swarming.—A. D. Lord, Amiret, Minn., asks the following questions:

1. Did you ever know of a swarm of bees to leave the hive after four days from natural swarming, and when they had made three frame-fulls of comb, two partly full, and all laid full of eggs? 2. Did you ever know of 2 swarms of bees coming from one hive at the same time, and a queen with each?

Mr. Heddon answers these questions in this way:

1. Yes; but only once or twice among the thousands of swarms we have hived. Sometimes bees go contrary to all rules. We think we have had less of these exceptions than most bee-keepers, considering the number of colonies we have kept.

2. We all have both first and second swarms leave their hives with two or more queens, and with the after-swarms. Such is the rule, and should one of these swarms divide, and each have one or more queens, it would come under the head of your No. 2.

Rheumatism and Bee-Keeping.—Wm. H. Graves, New Carlisle, Ind., on March 24, 1888, writes:

I feel that I would be lost without the weekly visits of the American Bee Journal, although I do not know that I will ever be able to do much with bees again. I have been confined to my bed with rheumatism, and under the doctor's care since the latter part of last July. I commenced the season of 1887 with 70 colonies, and increased them to 110, by natural swarming, and obtained about 1,000 pounds of honey in one and two pound sections. My loss will be from 25 to 30 per cent., on account of not being able to take care of them last fall.

Hard Winter for Bees.—Frank Andrews, Smethport, Pa., on March 24, 1888, says:

I moved my bees about half a mile the first of last October, and it turned cold soon after. I lost some of the queens. I packed the bees on the summer stands, and I find that 15 colonies are dead, all but two dying queenless, and those had plenty of honey, but during the last cold spell they failed to reach it. My report for 1887 is as follows: I had 43 colonies, spring count, and took 1,000 pounds of comb honey, and 800 pounds of extracted. This has been a very cold and hard winter for bees here. I think one-half of the bees are dead in this county.

Great Bee-Mortality Predicted.—M. O. Tuttle, Osage, Iowa, on March 22, 1888, writes:

The mercury is 15° below zero this morning. (Take the bees out?) My bees were put into the cellar about Nov. 18, or Nov. 16 to 19, 1887. They are quiet, and in good condition. I have 170 colonies in one cellar, which is under the dwelling-house. The cellar is large, about 8 feet deep, dry, and ventilated by the chimney. A stove is used in the coldest weather. The temperature is about 45° now, but was 41° to 42° until near March 1. All but a few colonies have plenty of stores, and those had poor queens, hence all I care for them is their combs. We had no surplus to speak of last year. I predict great mortality among bees in this county, as those remote from timber had no supplies, and no matter what the locality, with those that were allowed to swarm during the one week of honey-flow we had—they are all gone, or will be going, if not fed. I notice some are prophesying a good season for 1888. I can wait for my boom this year, till about July.

Bees Wintered Well, etc.—Clarence W. Wilkins, Cortland, N. Y., on March 24, 1888, writes thus:

Bees have wintered well in this locality the past winter, and are "springing" quite fairly, although the weather is extremely cold. The mercury stood at zero last night, and will go below to-night. This is simply getting "our pay" for the severe thaw which we were subject to the forepart of the week. Last Wednesday, previous to this "freeze-up," the bees of this neighborhood had a jubilee. It was the first chance they have had for a good flight, and they improved it with a will. As yet I have lost but one colony out of the 25 with which I began the winter, and when it is considered that the bees have been shut in ever since last fall, this loss will seem slight—at least it does to me; and if I lose no more, I shall be well pleased with the result of my wintering.

The Bee Journal was, in my estimation, previous to its renovation, far superior to any other apicultural periodical that ever came under my notice. Now, it has "fairly out-done itself."

Cutting the Basswood Trees, etc.—L. Reed, Orono, Mich., on March 22, 1888, writes:

The snow is 2 feet deep yet. We have had a very severe winter; it has been blowing a gale for the last 24 hours, and the mercury has been down at zero alt day. The prospects are for a late spring. There has been but one day here that bees could fly since last November. I commenced in the spring of 1887 with 42 colonies, after selling 12 colonies. I sold 1,200 pounds of comb honey, increased my apiary, by natural swarming, to 83 colonies, and took 12 colonies on shares, making 95 in all. I put them into the cellar on Nov. 12, and I am a little uneasy about them, as there are more dead bees on the cellar bottom than usual. The prospects are not very flattering for next season. The basswood timber has been cut down at a fearful rate this winter, there being thousands of cords of basswood bolts piled up at the railroad stations. It will soon be a thing of the past. We get about one-half of our honey-crop from basswood in this section, so we shall have to substitute something else for it, or go out of the business.

Varying Temperature.—C. F. G., Boonville, Mo., on March 22, 1888, writes:

The past year was a very poor one for the bee-keepers of this locality. There was no honey in the white clover, and very little in anything else. At the close of the season the bees gathered a little honey, the best Italian colonies averaging a fair winter supply. Those bee-keepers who failed to feed their poor colonies in the fall, and who then neglected them in the winter, invariably lost them. Several parties lost as high as 20 colonies and over, while almost all bee-keepers have lost more or less, and with not a few it was a "clean sweep." However, those colonies that were fed and properly cared for, wintered fairly well.

Last Sunday we had beautiful spring-like weather, the thermometer ranging as high as 84° in the sun, and the bees flew about quite lively, many carrying in pollen. This morning it was 14°, making a difference of 70° within four days. It is these sudden changes that kill so many bees, and especially those wintered in the cellar, and then prematurely placed on the summer stands. The arrival of the Bee Journal is always hailed with delight by me.

CONVENTION NOTICES.

☞ The Wabash County Bee-Keepers' Association will meet at North Manchester, Ind., on April 10, 1888. F. S. Comstock, *Sec.*

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. Fuller, *Sec.*

☞ The Eastern Indiana Bee-Keepers' Association will hold its spring meeting on Saturday, April 21, 1888, at Richmond, Ind. M. G. Reynolds, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. John Nau, *Sec.*

☞ The Union Bee-Keepers' Association of Western Iowa, will hold their annual meeting at Menlo, Iowa, on Saturday, April 14, 1888, at 10 a.m.
H. D. Lenocker, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited.
W. H. Beach, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. Buchanan, *Sec.*

☞ The Marshall County Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Saturday, April 21, 1888, at 10:30 a.m. The subject for discussion is, "Spring and summer management of bees." A general invitation is extended. A good meeting is expected. J. W. Sanders, *Sec.*

☞ The 18th semi-annual session of the Central Michigan Bee-Keepers' Association will be held in the Pioneer Room at the State Capitol, on Saturday, April 21, 1888. Prof. A. J. Cook will give an address. A cordial invitation is extended to all, as it will be a very interesting meeting. W. A. Barnes, *Sec.*

☞ The tenth annual meeting of the Texas State Bee-Keepers' Association will be held at the bee-yards of Vice-President W. R. Graham, in Greenville, Hunt Co., Texas, on May 2 and 3, 1888. A leading feature of the convention will be criticisms upon subjects that have been mentioned in the bee-papers. A good time is expected, so let all Texas and Arkansas bee-keepers attend. A cordial invitation is extended to all bee-keepers wheresoever dispersed. Remember, no hotel bills to pay at our conventions! B. F. Carroll, *Sec.*

QUERIES AND REPLIES.

HONEY THAT WILL NOT GRANULATE.

Written for the American Bee Journal

Query 529.—1. Why is it that my honey will not granulate or candy? I would like to have it do so. I have some that is five years old, that is still liquid. It was well-ripened before I extracted it; I then put it into 6 and 10 gallon tin-cans, and let it stand with a very thin piece of domestic tied over it. Occasionally I took off the cloth and skimmed it. It was that way until winter, when I put the top on. I have tried it in glass jars, still it remains liquid. It will sometimes have some grains in it in the winter, but when summer comes, it all becomes liquid again. Our summers are of more uniform temperature here than in the North, the thermometer seldom indicating 100° above zero, or seldom falls to zero. 2. What can I do to make it granulate thoroughly?—Tennessee.

I know of no remedy. I wish that mine would act that way, but it does not.—G. M. DOOLITTLE.

I have no receipt to cause honey to granulate. Neither do I wish for one. —J. M. HAMBAUGH.

Honey from some bloom will not granulate, and I cannot tell you how to make it do so.—J. P. H. BROWN.

1. Honey from some plants granulates much more readily than that from others. 2. I do not know.—M. MAHIN.

We think that it was not ripe enough. We have never seen ripe honey that would not candy here, *unless it was heated.*—DADANT & SON.

I do not know. Ask a chemist. Aerate it thoroughly, and put it into an ice chest.—J. M. SHUCK.

I cannot say. If it is pure honey, and exposed to the air and cold, it should granulate.—MRS. L. HARRISON.

You do not say from what source the honey was gathered. Some kinds granulate sooner than others. I should not worry about that. I wish mine did *not* granulate. I believe that customers generally prefer it in liquid form.—EUGENE SECOR.

1. Some kinds of honey will not granulate. I saw some at the Ohio State Convention, that was four years old, and no signs of candying. 2. Try putting it in vessels, preferably barrels, that have had candied honey in them, and have not been washed.—A. B. MASON.

1. No doubt your honey is from some source which yields that kind that does not granulate, or does not granulate readily. 2. If it will granulate at all, bring it up North, and stir it, and let it get a few weeks of our zero weather.—JAMES HEDDON.

I have never seen our spring and summer honey granulate, but our fall honey gathered from September to November always granulates at a temperature of 30°, and remains so until melted by heat. Probably if the honey was subjected to a very cold degree, it would granulate.—P. L. VIALLON.

Honey in different localities seems to differ in this respect. My honey always granulates when cold weather comes, and sometimes sooner. I know of no way that it can be granulated artificially.—C. H. DIBBERN.

1. Extracted honey is not apt to candy if kept in a warm place, say 80°. 2. Place the honey where it will freeze. —G. L. TINKER.

1. The peculiar character of your honey is undoubtedly owing to the source from which it was gathered. All kinds of honey do not candy, although to do so is the rule. The riper honey is, the slower it is to candy.—R. L. TAYLOR.

Only tell us all how to get our honey like yours. If you mix with it some honey not well ripened, I think it may granulate. Possibly the flowers from which it was taken, are at the root of the matter.—C. C. MILLER.

1. I cannot give you just the reasons why; but I wish my honey would do as yours does, as I cannot sell granulated honey in my market. 2. Expose it to the light, and as cold as possible.—H. D. CUTTING.

1. This is one of those questions that no one can answer. I might guess a dozen things, and be wrong. Why not be contented with your honey as it is? Many of us would give much to know how to bring about this very state of things. The temperature probably has much to do with the matter.—J. E. POND.

I think it is in the nature of the honey, and I know of no way to secure granulation. I have honey from California and Louisiana—apparently nice honey—that has never shown any signs of crystallization even in our coldest winters.—A. J. COOK.

1. Honey seems to be a combination of *sweets*, and it depends upon the combination as to how soon, and under what conditions honey will granulate. The fact is, honey in a temperature as high as is natural to the immediate brood-nest, will never granulate. This proves that granulation is the result of low temperature, and some honeys are more susceptible to the cause, than some others. I have samples of honey running back to 1867, and two or three out of the number have never granulated, and the quality cannot be excelled. 2. Just let your honey alone. I wish that my honey would never granulate.—G. W. DEMAREE.

Your honey was either gathered from different kinds of flowers, or it was not *ripe* when extracted. To expose extracted honey to the air and cold will almost universally cause it to granulate. The exceptions are rare, and usually with some inferior qualities.—THE EDITOR.

COMBS FROM FOUL-BROODY APIARIES.

Written for the American Bee Journal

Query 530.—1. Foul brood exists in some apiaries in this locality. If I buy the comb of the extinct apiaries, and render it in a Cary wax-press in my bee-room, do I run much risk of introducing foul brood to my own apiary of 75 colonies of healthy bees? 2. If so, what precautions are necessary?—Apiarist.

I would not risk it.—M. MAHIN.

I should hardly think there would be any risk.—G. M. DOOLITTLE.

1. You do. You had better spend your time, money and energy in some other way.—MRS. L. HARRISON.

No, not with caution. The important thing is to be sure that the bees get no honey from the combs.—A. J. COOK.

I have had no experience whatever with foul brood. I would be extremely cautious.—J. M. HAMBAUGH.

We had rather not buy that comb, unless it was rendered into wax at the place where it is bought.—DADANT & SON.

I have never had, nor have I seen a case of foul brood, and I am not sorry of my ignorance, from what I have heard of the disease.—P. L. VIALLON.

You do. If you *must* purchase, do all your handling of them after night, and burn up all refuse.—J. P. H. BROWN.

I know nothing about foul brood from experience, but I would not want to run even that much risk.—C. C. MILLER.

I do not know anything about foul brood. Our best books on apiculture treat of it.—J. M. SHUCK.

I would have nothing to do with frames that had been exposed to foul brood. If you value the bees you have, you cannot be too careful.—C. H. DIBBERN.

I have had no experience with foul brood, but I should not risk it. I would prefer to go to the apiary where the foul brood is, and extract the wax. —G. L. TINKER.

Yes, you do run a great risk. If you have anything to do with it, go to the place where the combs are, and melt them there, and do not bring anything but the wax away.—H. D. CUTTING.

I am happy to say I know nothing of foul brood, only from reading, and you can get information from some pamphlet on the subject, worth a hundred times my theories.—EUGENE SECOR.

Not any, provided you do it so that not one of your bees ever gets a taste of any honey from these combs, or of the combs before they undergo the heating necessary to rendering the wax. My advice is, to render the wax somewhere else.—JAMES HEDDON.

1. To say the least, you run too much risk—more than any one who is not anxious to become better acquainted with the disease can afford to run. 2. Do not bring them any nearer your apiary than they are, until they are thoronghly boiled; and even that is not entirely safe, if the person who does the work is to be near your bees soon afterward.—R. L. TAYLOR.

I should think that it would be possible to box the combs so closely that no bees could get at them, and everything could be so carefully conducted that there would be no danger to your bees. But why not render the wax on the premises where the disease exists?—G. W. DEMAREE.

1. Foul brood is so insiduous, and so easily carried from one hive to another, that it is dangerous to fool with it at all. Let it alone severely; that is, do not procure any comb or bees from any apiary where the least suspicion of the disease exists. An ounce of prevention is worth many pounds of cure.—J. E. POND.

1. I do not know what a Cary wax press is, and I would have nothing to do with the combs unless it was desirable to get them out of the way so that your own bees would not get to the combs. 2. *You cannot be too careful. Do not run any risks.* It has cost Mr. A. I. Root over $1,000, and a few years ago it cost me from $300 to $500 in one season. Do not let your bees touch the combs. *Boil* them, and everything about them that can be boiled, and wash you hands and everything that cannot be boiled, in Mr. Muth's preparation of salycilic acid.—A. B. MASON.

Either have nothing to do with the combs, or else render them into wax at the apiary where they now are. You would run a great risk by taking these combs into your apiary, or placing them where your bees could get at the honey.—THE EDITOR.

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

CORRESPONDENCE.

THE DRONE.

Our Poor, Slandered Drone Asks for His Day in Court.

Written for the American Bee Journal
BY REV. L. L. LANGSTROTH.

"Virgil, who was a great poet, but not enough of a practical bee-keeper to know a laying from a virgin queen, was the first writer of much note, to have his fling at me. To him I was only an idle knave, born to consume the fruits of others' labors, and deserving no better fate than death, by ignominious expulsion from the industrious Commonwealth. Ever since he so grossly libeled me, to compare one to a drone, is the most orthodox form of denunciation for laziness, gluttony, and what has been called 'general cussedness.'"

Now I am proud to say to this Court, that I can disprove every charge brought against me, by simply proving, that to the best of my ability I

Sir Drone.

fulfil the express object for which I was born. Surely no creature can do any better than this, and excuse me for thinking that few men do as well.

Charged with Laziness.

If any of my enemies had authority to call the roll of my demerits, he would surely begin by accusing me of being too *lazy* to gather any honey. But an expert in points of this kind could remind him, that if he examines my proboscis, he will see that it is much too short for sipping nectar from the opening flowers.

Makes no Wax.

I am free to admit that I make no wax, but even Cheshire himself, whose microscopes have fairly turned me inside-out, will tell you that I have not a single wax-secreting gland, and am also without those plastic, trowel-like jaws which enable the worker-bees to mold the wax into such delicate combs.

Gathers no Pollen.

Now do not insinuate, that I might at least employ some of my leisure time in gathering pollen! Can you not see that my thighs have no basket-like grooves, in which it could be packed—and are quite destitute of the hairy bristles by which the workers hold the pollen in place?

Accused of being a Lazy Coward.

No doubt you have often denounced me as a big, hulking coward, that leaves to the women, the whole defense of the State. Are you not aware that I have no sting to fit me for acting on the offensive? Would that I had one proportioned to my bulk! if only that I might make proof of it, upon all who berate me for not accomplishing impossibilities!

I am not at all ashamed to admit that I spend the most of my time, not given to eating, either in sleeping, or in what you are pleased to call, listless moping about the hive. Has it never occurred to you, that if I should try to assume the restless activity of a worker-bee, I could be nothing better than a meddlesome busy-body, perpetually interfering with the necessary business routine? I guess the silly meddler who would put me up to such nonsense, ought more than once to have had a dish-cloth pinned to his rear, to teach him not to bother the women in their work!

Misunderstood.

I am sorry to number Shakespeare among those who have misconceived me, by calling me "the lazy, yawning drone"—but as one of my maligners has likened me to Falstaff, I may be allowed to quote in my own defense, what this great braggart, when accused of cowardice, says of himself to the Prince: "Was it for me to kill the heir apparent? Why, thou knowest I am as valiant as Hercules; but beware instinct; the lion will not touch the true prince. Instinct is a great matter; I was a coward on instinct. I shall think the better of myself and thee during my life. I for a valiant lion, and thou for a true prince." I lie not, like the false knight, when I say, that what you call my laziness, is a matter of pure instinct.

With all your boasted reason, you seem to have entirely overlooked the doctrine of the conservation of forces. You upbraid me with consuming so much of the precious honey, to the gathering of which I contribute nothing! Well! if I made a single uncalled-for motion, would not that necessitate an extra consumption of food? What better can I do, then, than to keep as quiet as possible? There is nothing either inside or outside of the hive which calls for any

other line of conduct, until the young queens are on the wing; and as they do not sally forth until long after noon, why should I go abroad any earlier? I can assure you, that if bridal excursions were in order, as many hours in the day as the flowers secrete honey, no worker would ever be earlier to rise, or later to go to bed than myself.

Misrepresented.

I, an idle, lazy, listless lounger, forsooth! Does any one wish to witness the most perfect embodiment of indefatigable activity? Let him then look at me, when at the proper time, with an eager, impetuous rush, and a manly, resonant voice, I sally from the hive! See with what amazing speed, I urge, what our old friend Samuel Wagner, called my "*circumvolating*" flights! For ought you know, I may cover greater distances in describing these vast circles, than the busiest worker, in the longest summer day. There is great need then, that I should be abundantly provisioned for such exhausting excursions, and it is only a law of nature, that on my return from them, all that I carried out with me, should be found to have been used up. If you taunt me either for the full or the empty stomach, I merely ask you if you have never heard of honey-moon trips among your own people, which began with extra-full purses, to end only with uncomfortably light ones?

Savage Delight over my Death.

To cap the climax of your abuse, what savage delight you take in seeing the workers drive me from my pleasant home! and how glibly you can moralize, over what you call a righteous judgment upon a life spent in gluttony, and inglorious ease! Just as if you did not know that the whole economy of the bee-hive is founded on the strictest principles of utilitarianism. Is not a worker-bee when disabled by any accident, remorselessly dragged out to die, because it can no longer contribute to the general good? Even so exalted a personage as the queen-mother herself, as soon as it is plain that her fertility is too much impaired, has a writ of *supersedeas* served upon her, in favor of one of her own daughters.

Knowing well the law under which I was born, I urge nothing against being put to death when Shakespeare's "pale executioners" deem the day of my prospective usefulness to be over. Truly, the sword of Damocles is suspended over my head, and from the hour of my birth, till that of my death, it may fall at any moment. Many bitters are thus mingled with my sweets.

I have time to mention only one more. While I know that most of the young queens come safely back from their wedding excursions, I cannot help sometimes foreboding the worst, when I see that no drone ever returns to tell us of his experience.

Appreciated by Bonner.

I will close my defense by reminding you how the good father of the great Scotch bee-keeper, Bonner, showed his appreciation of our persecuted race. It was his custom to watch every year for the first flying drone. Its cheerful hum so filled him with delight, as the happy harbinger of approaching swarms, with their generous harvest of luscious sweets, that he called an instant halt on the work of his busy household, and devoted the rest of the day to holiday feasting. The patron of the drones ought forever to bear the honored name of "Saint Bonner."

The Decision of the Court.

Sir Drone:—This court having heard your defense, declares it to be a true and manly one, all those to the contrary notwithstanding, who would further injure you by calling it nothing more than crafty special pleading. It only regrets its want of power to punish adequately your slanderers. But, alas, my worthy fellow! you must not expect too much from this acquittal. Remember how difficult it is for Truth to overtake a Lie that has got a start of only a single day. No doubt the time will come when those who have been stigmatized as the

"Lazy Fathers of the Industrious Hive,"

will be held in due honor by the world; therefore console yourself with this bright hope for the future of your race, while you protest against the lies that have had so many centuries the start of your true story, that you may well despair, in your short lifetime, of ever overtaking them.

Morals from the Drone's Plea.

It were easy to draw more than one good moral from the drone's plea, such as, "Do not give even a dog a bad name, unless you are quite sure he deserves it," but the moral which I think at the present time can hardly help suggesting itself to well-read bee-keepers, may be very fairly styled the

Moral of the Prof. Wiley Scientific-Pleasantry Lie.

It is only too well known, to the sorrow of most of our large honey-producers, that some years ago Prof. H. W. Wiley, an entomologist in the service of the Government at Washington, published substantially this statement, viz: That honey-combs, after being manufactured, filled with glucose, and sealed over, all by human skill, so nicely as to escape detection, are largely sold as genuine bees' honey; when the bees have had nothing to do with a single step in the whole cheating process. This absolute falsehood having got a good start as coming from a *scientific man* (?) has widely, at home and abroad, prejudiced the public against buying the purest honey, in the most beautiful combs.

Many times have I heard the above story spoken of as either undoubted truth, or have been asked if it were not the truth. It has been refuted again and again, and large sums of money have been offered by responsible parties, to any one who will produce even a small specimen of such a man-made product; and yet the story is constantly appearing in print in America, Europe—and not long ago even in Australia. It has found its way into a periodical of as high repute as the *British Bee Journal*, and it sometimes seems to have a greater vitality *for mischief*, than when it first started out on its hurtful career.

Prof. Wiley, when called to account for fabricating such a story, thought it a sufficient excuse to say that he meant it only as a "*scientific pleasantry.*" Could any one wish him a harder task than over his own signature to try to stop the march of such an inexcusable utterance? Could there be a stronger condemnation of his conduct in this matter, than the words of Holy Writ? "As a madman who casteth firebrands, arrows and death, so is the man that deceiveth his neighbor, and saith, Am I not in sport?"—Prov. xxvi. 18, 19.

Dayton, O., March 8, 1888.

THE IDEAL.

Careful Breeding and Crossing Two Races of Bees.

Written for the Western Tree Planter

BY PROF. A. J. COOK.

We often read of a large, brown bee which was indigenous to this continent. I think that any such bee is only a variety of our common black bee, which was introduced into America long years ago, and so has become widely distributed, and it would not be strange if color variation had taken place to quite a degree....

The good points of the black bees are: They cap their honey thicker, and so comb honey from them is very white; they are very ready to go into sections or a surplus chamber on top of the hive, at the dawn of the honey harvest. This point is specially prized by many of our best bee-keepers. This fact leads many of our wisest apiarists to desire at least some black blood in their bees....

I have had considerable experience with Syrian bees, and like them very

much. I am now carefully crossing Syrians and Carniolans in hopes to get the vigor and prolificness of the former, and the amiability of the latter. I believe that such a cross will give us the ideal bee. As bees, unlike cattle, are reared for a single purpose, there is no objection to crossing them. Indeed I believe one of the greatest lines of progress lies in this direction. If we can rear a race with the amiability of the Carniolan, the vigor and fertility of the Syrian, which shall also have the excellence of the black bee as a producer of comb honey, we shall surely make a great advance.

Agricultural College, Mich.

HIBERNATION.

Review of Mr. Latham's Article on Hibernation of Bees.

Written for the American Bee Journal

BY WM. F. CLARKE.

I suppose Mr. Latham will feel slighted if I do not pay my respects to his article on page 167, but really it is so hyper-scientific, that it well nigh bamboozles me. It reminds me of a young lawyer, who, in his maiden effort at the bar, indulged in such high-flown language, and used so many learned phrases, that the Judge, in summing up, was led to remark, that Mr. —— had "soared out of the jurisdiction of his court." One word especially bothers me, viz: "androgynal." I am away from my library; "Webster-on-a-bridge" is not within reach, and I am obliged to "give it up."

Yes, Mr. Latham, we all know that hibernate in its common unscientific use, means merely to "pass the winter," and in that sense, we human beings, as well as the lower animals and insects, hibernate. So do plants and stones. But, as Mr. L. says, "in the accredited scientific use of the term, hibernation is used to designate a condition."

Why does he assert that we cannot arrive at any positive knowledge on this subject, "so far as optical evidence demonstrates the actual hibernal condition?" We can see that, under certain circumstances, bees form a tight cluster, and remain in an almost, if not quite motionless state. We know, too, that when thus quiescent, they consume the minimum of of food, thereby showing that they eat seldom and sparingly. Many bee-keepers have testified to observing the bees when so torpid that it required considerable disturbance to arouse them, and that when they wintered thus, their consumption of stores was very meagre.

Mr. Latham says, "The hive-bee is only physically constituted to experience to a certain degree" the condition of hibernation. If it experiences the condition in *any* degree, is it correct to say as he does, "that the hive-bee does not hibernate?" The same is true of the red-squirrel. It hibernates "to a certain degree." It is so constituted that it must arouse every now and then, "and eat to replenish the flames of life." Still, the red-squirrel is classed among true hibernators. Why, then, should not the hive-bee be similarly classified?

Mr. Latham says that no animated organized being "can become frozen solid, or even become sufficiently benumbed by cold as wholly to destroy its vital functions, and live." This is not so. The black ant can. Mr. Doolittle demonstrated this a long time ago, and in *Gleanings* of March 15, 1888, Prof. Cook states the same fact in regard to the black ant. "They seemed utterly dead. Pinching or rough treatment of any kind did not arouse them at all!" But on being subjected to warmth, they soon "become wide-awake and lively." The hive-bee is not so physically constituted as to be capable of this. It must have a certain degree of warmth to hibernate. Intense cold first arouses it to abnormal activity, and then causes it to succumb through exhaustion.

Mr. L. says: "Life without the influence of motion on matter, is inadmissible." Then there is and can be no hibernation in any case. Even the bear does not hiberhate, according to this showing. The black-ant example is in point here again. So are the numerous well known cases of other insects and chrysalides that freeze solid, and yet thaw out and come to life again. Carp and other fish have been known to pass through the same experience. The fact is, we know but little, after all, about the life-principle. It is a great mystery. Life survives under certain circumstances, and then under apparently similar ones, becomes extinct. Truly we are all as Tennyson says:

> "Like children groping for the light,
> Like children crying in the night."

I must "fyle a demurrer" to the use of the terms "coma" and "comatose" in relation to this matter. They designate a state of disease. "Coma" is not healthy, normal sleep; hibernation is.

The statement, "it does not appear that the comatose condition evinced by the hibernating species, is habitual with the hive-bee, as it does not accompany that insect from the regions of flowers and snow-storms, to the ever-blooming flora of tropical climes," admits of question. There is a summer sleep, called by scientists, *astivison* (I think that is the term applied to it), and possibly the hive-bee takes a turn at that in tropical climes. Our brethren who keep bees in the "Sunny South," can perhaps inform us on this point. Bees must have a period of rest, surely, in the South, as well as in the North.

St. Thomas, Ont.

POLLEN—MOTHS.

At What Times do Mature Bees Eat Pollen?—Wax-Moths, etc.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

I notice in a recent bee-paper that Prof. Cook claims that the diet of mature bees is largely composed of pollen. Well, I am no scientist, so I do not suppose it would look well for me to oppose the Professor, but as a "cat may look on a king," so I suppose it will not be objected to, if I ask him a question or two regarding his position.

What I wish to know is, at what times, or under what circumstances, do mature bees eat pollen? Surely, not at all times, or at their convenience, as I thoroughly proved in my experiments a few years ago, when I killed several colonies trying to make them eat it, as a means of support. They starved to death just as soon as the little honey was gone which I gave them, never touching the pollen, as far as I could see.

When I gave the experiments in the BEE JOURNAL, to prove that old bees do not eat pollen, as a rule, Mr. A. R. Kohnke took it up and said they (my experiments) proved nothing but my failure. He further said, "This does not prove that the bees do not eat pollen, for we know they do. Pollen is not, and cannot be the primary cause (of bee-diarrhea); certainly not. Primary causes are those which compel the bees to eat the pollen when they ought not to, viz., out of season. If Mr. D. had furnished besides pollen and a little or no honey, those other conditions necessary to produce the disease, I dare say he would have succeeded."

The above was written in 1883, and in all the years since, I have been trying to find out "those other conditions necessary," to make bees eat pollen, but so far, it has all proved a failure.

Now, Professor, here is a chance for you to get a great name, and do the world much good, by telling us how to know the conditions that are favorable to our success, along the line of a pollen diet for bees. Please tell us all you know about it, because if we can

keep our bees a part of the time on pollen, even if we cannot all of the time, it will be a great saving in honey, and rid our combs of so much pollen that we are often anxious to dispose of.

Keeping Wax-Moths from the Honey.

Picking up a bee-paper lately, to look over while I rested a few moments, I read in it this sentence: "As fast as the honey is sealed, it is removed from the hive, and all openings in the boxes pasted over with paper, so that the moth cannot get within to deposit its eggs." This was given as the true plan for keeping the larvæ of the wax-moth from comb honey. I was very much surprised that any writer of recent date should advocate such a doctrine as this, at this day and age of the world, for Quinby proved the fallacy of such a course, as long ago as 1865. In his "Mysteries of Bee-Keeping Explained," published in 1865, but written some time previous to that, he says:

"I have taken off glass jars, and watched them till the bees were all out, and was CERTAIN THE MOTH DID NOT COME NEAR THEM; then immediately sealed them up, absolutely preventing any access, and felt quite sure I should have no trouble with the worms. But I was sadly mistaken. In a few days I could see a little white dust, like flour, on the sides of the combs, and bottom of the jar. As the worms grew larger, this dust was coarser. By looking closer at the combs, a small, white, thread-like line could be perceived, enlarging as the worm progressed."

He then continues: "The reader would like to know how these worms come in the jars, when to all appearance it was a PHYSICAL IMPOSSIBILITY." To this he says he cannot give a positive answer, but thinks the bees carry them among the combs on their feet, where they are left to hatch.

That all should know that combs taken from the hive in the summer are liable to the attack of the larvæ of the wax-moth, and should be looked after, as often as once a week, is the object of my noticing this point here.

Hiving Back the Swarms.

A subscriber of the BEE JOURNAL says that he desires to control his bees so as to avoid increase, and asks what I think of the "hiving back" plan given by Prof. Cook, as compared with "let your bees swarm—just once."

I have not tried the "hiving back" plan thoroughly, except one season, when I used it on all the swarms that came, but the first one, as is recommended by its advocates. As that year we had rather a poor season for honey, it might not be fair to speak of it as a whole, so I will only say that, in a poor season I would much prefer letting the bees swarm but once, to this or any other plan of preventing increase I have ever yet tried, and I have tried nearly all so far given to the public.

Instead of having that impetus for work which a swarm has when hived in an empty hive, they acted more like a "driven" swarm, working no faster for the first few days, than they did in the parent hive. This first few days' work of a new colony often decides the matter of a really good crop of honey, or only a fair crop. from such individual colony.

If I must really have no increase, then I know of no better plan than the above; but I think it will pay in the end to let the bees swarm, hiving them in empty hives, even if I have to double them up in the fall or early spring. I am positive that enough more honey will be obtained, to well pay for all the trouble; besides, it often happens that we meet with a loss in wintering, when we should be glad that we kept our increase over.

I am getting more positive every year, that the proper time to double up bees, if we wish to do so, is in the spring, rather than at any other time of the year; doing the work in May, or the forepart of June.

Borodino, N. Y.

TRANSFERRING.

The Best Method of Transferring Bees.

Written for the American Bee Journal

BY GEO. F. ROBBINS.

The time is approaching when the above subject will become one of particular interest and inquiry to many. Already inquiries relating to it have appeared, and the answers being, as I regard them, misleading to beginners, I am prompted to tell what I think that I know about it.

A few weeks ago an inquirer was told to transfer during fruit-bloom. *I* cannot do it. The idea, of course, is that the combs will at that time be nearly empty of honey, while at the same time the bees will be so occupied that the operation will not start robbing. It may be so in some localities, but it is not so in mine, and I think it is so in very few. I once tried transferring in the height of apple-bloom, and in less than ten minutes I had almost the entire apiary upon me. Indeed, there has never been a season when I have not had to choose morning and evening to open hives at any time before clover began to yield well. Unless fruit-bloom keeps bees busier elsewhere than it does with me, the one who attempts to transfer bees out-of-doors at that time will be sure to get into trouble, and may be very serious trouble.

The quickest, neatest, easiest, safest and best method of transferring is, to drum out the bees twice, and use the old combs for beeswax, *a la* Heddon. I would not use the combs in the new frames at all, unless they contain but little honey, and can be trimmed so as to fit into the frame. I do not at all like these combs made of chips, with a surface as rough as a cobble-stone pavement. The details of that method should be pretty much as follows:

About 21 days before white clover begins to yield copiously, is the time to drum out the first swarm. Here that time is usually from June 1 to June 5, so that the time to begin is about May 10 to 15. Place the new hive on the old stand. When making a new swarm this early in the season, empty combs must be used. One or two or them had better have a little honey. Full sheets of foundation might do in some localities, but I think not here, although I have not tried them.

Carry the old hive to a new stand, invert it, remove the bottom-board, place an inverted box of the same horizontal dimensions on top of it, and wrap a sheet around the whole, so as to keep light out and the bees in.

Now drum on the sides with sticks (not too heavily) at intervals for 15 or 20 minutes. As there is apt to be cool weather still in May, it will be better if a considerable cluster of bees is left in the old hive. But in 15 minutes the most of the bees, including the queen, will have passed into the drum-box. Turn the box mouth upward, and carry the bees and shake them upon the sheet in front of the new hive. Do not have the sheet so that the bees can crawl in clusters into crannies under and around the hive. Turn the old hive right end up, and watch it for a day or two. If there seems to be danger that they will be robbed, fasten up the entrance entirely for a few days, until enough bees can have time to hatch to protect their home. There will be no danger of their smothering.

In 21 days the bees will all be hatched except a few drones, and a queen about ready to lay. Now drum them out again, and put them in the new hive. They may now be put on empty frames if it is desirable. If the bee-keeper has correctly timed the first drumming, there will be but little honey in the combs to bother. Cut those combs out, and in the evening lean them in front of a few of the hives of the strongest colonies. Drum a little near the entrance until the bees

run out to see what is the matter. They will generally find the honey immediately, and clean the combs up by morning. The newly-made swarm will scarcely come out at all, as the bees will be engaged in secreting wax and building comb.

By the time the old combs are rendered into wax, I think all will conclude that the method described above is the quickest, neatest, easiest, safest, cheapest and best way to transfer bees.

Mechanicsburg, Ills.

FREE LANCE.

Had I Not Better Start Another Bee Periodical?

Written for the American Bee Journal
BY EUGENE SECOR.

I think I had better start a new bee-paper. It has now been fully a month since one was born. If I do, it will not be a repetition of the old story in the fable, where the mountain labored and brought forth a mouse, either. It will be a genuine "Vesuvius" belching forth streams of bee-lore, till all the little craft are buried in oblivion.

The fact is, we need more "intellectual bee-bread." I am taking only ten bee-periodicals, and there is not room enough in them to hold what we do not know about bees and bee-keeping. Then, is not the time ripe for another? And why not furnish the necessary pabulum myself, according to the protective idea that we should buy nothing which we can produce at home?

I have already selected the name that the infant is to bear when the maternal throes are over. It shall be THE FREE LANCE. The title is suggestive. *Free*, because I shall get enough advertising—gratis—through this notice to put it well on its feet. *Free*, also, because I expect to out-do all my rivals, and furnish the paper to all subscribers for two goose eggs (**OO**). Free *Lance*, because I expect everybody to pitch into the editor to his heart's content. Its columns will be open to all manner of criticism on all manner of subjects. Everybody who wants to air his cerebellum shall have the inestimable privilege.

The editor's serene picture will occupy the centre of the top of the first page. Above it will cross two Don Quixote lances, and from either cardinal point of the compass will be the cut of a Cyprian bee pointing for his (the editor's) blossoming nose. His composure will indicate with what calm serenity he can withstand the darts of adverse criticism. He will take everything just as coolly as he would if the four Cyprians, aforesaid, should all have reached his rubicund proboscis at once.

Its motto will be, "To be or not to be." In the future conduct of the paper that sentiment will be strictly adhered to. Its management will be original. Its advertising columns will be open to the world—and Canada—at $2.50 per inch, brevier type, each insertion, when the advertiser plants down the "dollar of the daddies" in advance.

Every contributor to the reading columns must deposit with the editor, as a matter of good faith, at the rate of five dollars per column for the space he occupies. Then if he wants to tell all about his patent reversible double-action drone-trap, he can occupy just as many columns as he chooses. If he wishes to establish his priority claim as the first one to furnish the bees with timothy straws through which to suck honey from red clover, the editor will give him all the space he pays for. If any one is aching to disclose to the world (and Canada) his recent invention for bringing a swarm of bees out of the clouds (and jugging them as Franklin did the lightning), by turning a crank, he shall have the sympathy of the editor, and unlimited space in the "Free Lance" (for a consideration).

If the foregoing plan will not cause a shaking among the dry bones of beedom—a revolution in the history of apicultural progress—then this editor is no *profit*. I give fair warning to all bee-periodicals that are not backed by a National Bank, or a lucky concatenation of favorable surroundings, to clear the track or join my syndicate. "Look out for the locomotive when the bell rings."

Forest City, Iowa.

[The "Free Lance" may fight its way to popularity—but the "goose-eggs" will but poorly pay the expense of printing, paper, postage, etc. It will be a "free fight," and the editor will soon have his hands full and purse empty—for there are hundreds who are *spoiling* to take part in a "free fight." "To be or not to be; that's the question!" Like many others—it will "be" awhile, and then "not be" forever!—ED.]

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

THE HONEY-BEE.

Its Anatomy, Products, and Its Relation to Plant Bloom.

Written for the American Bee Journal
BY REV. E. T. ABBOTT.

The story of bees reaches back beyond the pages of written history, and can only be fully known by studying it in the rocks of geological ages. As this would not be of any practical utility I will not attempt it, but will call your attention to some of the special features of its anatomy.

The bee has some peculiarities of structure worthy of our attention. But first let me remark that a bee belongs to the great class of animals known as insects, so called from the Latin "insectus" from "in," into, and "seco," I cut, because the bodies of many of them are divided into parts—that is, cut in. These parts in the bee are known as

Queen-Bee.

the head, thorax and abdomen. You will notice that we do not call a man who studies insects an insectologist, but we go to the Greek for a name and call him an "entomologist," and the science entomology from Greek "entoma," and "logos," a discourse. Now, this Greek word, "entoma," means the same as the Latin word "insectus"—"en," in, and "toma," to cut.

But to return—our bee belongs to the order of "hymenoptera," which means that it has membranous wings, from

Drone-Bee.

Greek "hymen," a membrane, and a word from the same language meaning wing. It belongs to the family "apidæ," or bee family, and to the Genus known as "apis."

Please note that "apis" is Latin for bee, and that "apiary" is a place where BEES and not "apes" are kept. Andrews, in his Latin Lexicon, under the word "apis," a bee, suggests that it is derived probably from Greek "hapto," to cling. "Apis," then, literally means a clinging animal, which seems a very appropriate name to one who knows the habits of bees. To follow the bee on down until we reach the individual, it belongs to the species "apis mellifica," so called because it gathers honey. Of this species there are several races, such as the German, or black, the Ital-

ian, Cyprian, Syrian, Carniolan, &c. These races are divided into varieties, and of each variety there are three kinds of individuals in each colony, or hive, known as queen, workers and drones. That is, in the summer, each hive in its normal condition contains the three kinds of bees mentioned. Briefly, the queen, or mother bee, which would be a better name—for she has nothing to do with ruling the hive in

Worker-Bee.

the ordinary sense of the word—lays the eggs; the workers gather the honey secrete the wax, and do all the work of the hive; the drones are the male bees and do no work whatever beyond that of impregnating the queen.

Its Anatomy.

We will now return to the anatomy of the bee and spend a few moments on the most interesting points of its organism. I invite your attention first to the head. The things of special interest about a bee's head are its mouth, jaws, tongue, antennæ, or feelers, and eyes, of things external; while the most important internal items are a few special glands with their secretions, and the brain ganglia. A bee's jaws do not move up and down, as do those of other animals, but sidewise. The jaws, while they are strong and well suited to the work they have to perform, are not toothed but smooth in the workers. The queen and drone have notched jaws. The jaws of the worker being

Head of Queen—Magnified.

smooth, it is entirely unable to commit the depredations upon fruit, such as grapes and peaches, which are frequently charged upon it. But more of this further on.

There is no more important member in the bee's body than its tongue, for it gathers with it all of the precious nectar that furnishes its own food, and at the same time helps to make glad the palate, if not the heart, of man in the days of buckwheat cakes or hot biscuit. The bee's tongue is so constructed that it can lap, like a cat, or suck up nectar like an elephant does water with his trunk. The tongue is not a tube, but is so made that the bee can form it into a tube if it desires to do so. Upon the length of a bee's tongue its value largely depends; for, as I have remarked in one of my pamphlets, a bee, unlike people, cannot have too much tongue. This is one of the advantages that some of our new races of bees have over the natives or blacks. They have longer tongues.

The antennæ are very interesting and important organs also. I can see no reason, however, why they should be called antennæ. This is a Latin word and means "sail-yard." Why a bee's feelers should be called "sail-yards" I am at a loss to know. "Tentacles" would be a more appropriate name, it seems to me, as this comes from a Latin verb which means to feel or touch. But I have no authority for re-naming them, and will call them by their usual name. They are composed of twelve joints. The first is called the "scape" and the remainder the "flagellum," which two words are equivalent to a whip-stalk and lash.

The antennæ are covered with sensitive hairs that aid the bee very much in its examination of the cells and its fellow bees. In them, too, is located the bee's organ of smell; and Mr. Frank Cheshire, a noted scientific bee-

Head of Drone—Magnified.

keeper and writer, thinks he has discovered that without a doubt the bee's organs of hearing are located in the outer joints of the antennæ, so that with these two small organs the bee feels, smells and hears. I will not attempt a further description of these organs, for a writer and scientist of no less note than Swammerdam closed his description by saying: "I cannot refrain from confessing, to the glory of the immense, incomprehensible Architect, that I have but imperfectly described and represented this small organ; for to represent it to the life in its full perfection far exceeds the utmost efforts of human knowledge."

The bee is well supplied with visual organs, having on each side of its head a large compound eye which is composed of a great number of single eyes that are hexagonal in shape. Mr. Cheshire counted 6,300 of these facets, or small eyes, on one side of a worker bee; 4,920 in a queen, the mother of this worker; and in one of her sons, a drone, he found the immense number of 13,090.

In addition to these compound eyes, there are found on the upper part of the head three simple eyes, called "ocelli," from "ocellus," a diminutive of the Latin, "oculus," an eye.

We all know how accurately a bee can mark the location of its home, and how quickly it finds its way back to its own hive. Sir John Lubbock has demonstrated by a series of experiments, that bees can distinguish colors, and that they show a decided preference for blue. He further states that bees have played a very important part in the development of the color of flowers. He is not alone in holding this view, as it is held by many noted scientists.

We call your attention, next, to the thorax, which furnishes points of attachment for about all the remaining external organs of our little but interesting insect. The thorax is composed

Head of Worker—Magnified.

of three rings, and the bee has three pairs of legs which are inserted on the under side of the thorax, a pair in each ring. There are many points of interest about these six legs, but I have space to note but a few of them. No one who has witnessed the marvelous skill and dexterity with which a bee handles its legs, can fail to be deeply interested in the legs of this wonderful little creature. They are very strong, and are composed of nine joints, which enables a bee to move them in many directions, and put them to many uses beside that of locomotion. A bee's foot is composed of two claws, which enable it to hold on to rough substances, or hang itself upon its fellows, as it does in swarming, and a soft, pliable substance called the "pulvillus," which

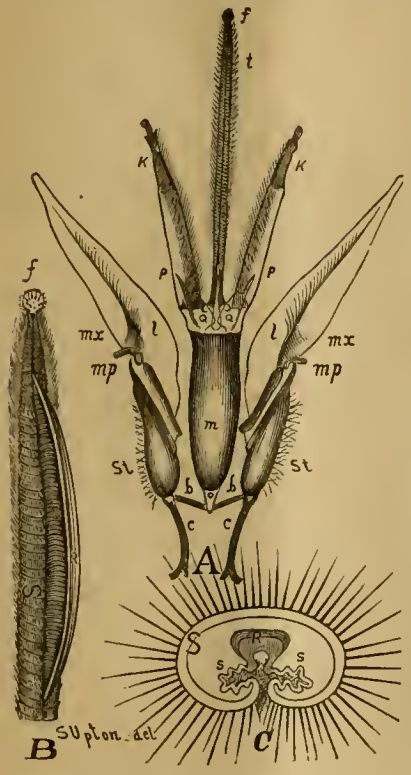
Leg of Worker—Pollen-Basket.

means a little cushion. A remarkable little cushion it is, too, for it enables the bee to walk up a glass, or any smooth substance, with about as much ease as it can a board. I remember reading, when I was a boy, in a district school, an article entitled "How a fly walks on a ceiling." I got the idea there that it had a kind of suction pump in its foot which enabled it to withdraw the air from under it, and the pressure of the air on the outside held the foot in place. Of late years I have learned that it does and has nothing of the kind, for it can walk in a vacuum as well as anywhere else; but it can not walk on a wet glass. Neither can a bee. The pulvillus of both bee and fly gives out a clammy secretion, which, for the moment, glues it fast. But, by a peculiar movement, the bee or fly is enabled to take it up and put it down in another place, and so can move up a smooth surface very rapidly by means of this viscid secretion. Since the bee cannot use its "pulvilli" with-

out loss of material, it is so arranged that it can, by an automatic movement, throw the "pulvillus" back and let its claws come in contact with the surface on which it is walking, or it can turn up the claws and let the "pulvillus" touch, at pleasure.

Its Pollen-Sacs.

You have all, no doubt, seen bees in the summer, when they were busy, come home to the hive with a peculiar looking substance sticking to the inside of their hind legs. This substance is the pollen of the male organs of flowers, and it furnishes part of the food of the nurse bees. The little cavity in which it is fastened is called the "pollen-basket," for it is a cavity that is formed by stiff hairs and the shape of the leg. The bee gathers this pollen with its tongue and the hairs of its legs and body, and then, by the use of the



Bee's Tongue.

same tongue and legs, it forms the pollen into minute balls. It then takes them up with the front legs, passes them back to the middle legs, and with these packs them snugly away in the pollen-baskets of the hind legs until the pollen stands up and hangs over much like the way that bay does when loaded into a wagon bed. There is a little spine or spur, on one of the joints of the second, or middle, legs by which it removes this pollen, when it reaches the hive, very much as a man puts a crowbar under a stone to lift it up.

There is one other little organ on each of the front legs, to which I desire briefly to call your attention, and then I must leave this part of the subject and hasten on to other things of interest. I can assure you, however, I have only hinted at the wonderful organism of a bee's leg when I have done this. There is a peculiar notch, or opening, on each of the front legs with which a bee wipes its nose very much as you have seen an unclean boy wipe his with his coat sleeve. It is also used to clean off its tongue. It is very hard to describe without an illustration, but it is none the less useful to the bee.

A bee has four wings which also have their points of attachment in the thorax. They, too, are very strong, and, on the whole, are a fine piece of organism. When at rest, they are folded very closely to the body and occupy but little space. They carry a contrivance for increasing the bee's wing surface, and at the same time not have them extend beyond the body when folded. A flying animal must have a wing surface proportionate to the size of its body. A common blue-fly has two very large wings, and when at rest they extend out from the body so that, at the widest points, they are about one-half inch from tip to tip. This would not do for a bee, for it must be able to enter a cell five of which make an inch. Of course, a bee has two wings on each side, but this would not aid it any in flight, if they were not so constructed that the bee could use them as one. A simple bar on one wing and a row of hooks on the other enables the bee to do this.

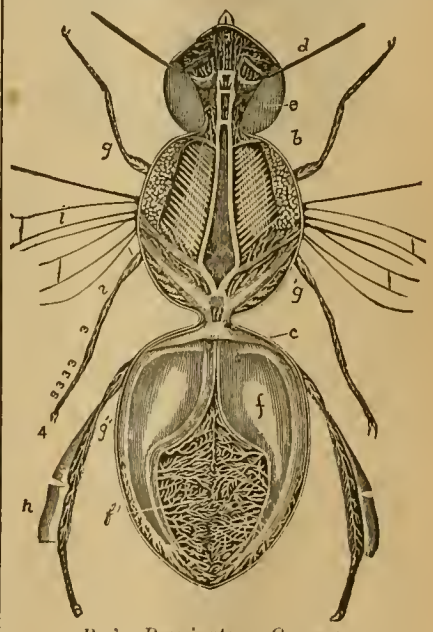
The abdomen, the third and last part of a bee's body, has no external organs except eight wax-pockets, of which I will speak further on. These, however, are found only on the worker bee, not on the drone or queen.

Internal Formation.

The internal anatomy of a bee is equally as interesting as the external. They do not breathe by the use of lungs, as we do, but by openings, called "spiracles," of which the bee has fourteen; five on each side of the abdomen, and one behind the insertion of each wing. Its internal organs are located in the posterior part of the body, only one of which we have time to describe, or in which any special interest centers. This is the honey-sac, which is located in the anterior part of the abdomen, and is in connection with the mouth by means of the œsophagus, which extends through the thorax to the head. It has nothing to do with the true stomach of a bee, except it is in connection with it by an opening which is in the end opposite the entrance to the œsophagus. This opening is stopped by a plug so arranged that the bee can open and close it at pleasure. In the honey-sac the bee stores and carries home the nectar which it gathers from the flowers. It is furnished with muscles which enables the bee to empty it through its œsophagus and mouth. It can also remove the stopper, referred to above, and permit any food, which the honey-sac contains, to pass on into the true or chyle stomach, if it desires to do so. So, you see, a bee always carries its dinner-basket with it, and it generally carries some dinner in the basket except when going to the field in search of stores. When bees swarm they fill their honey-sacs and take this much with them from their old home ready to set up business in the new.

A bee also has four pairs of secretory glands, to which we may call your attention further on. One pair is located in the jaws, two in the head, and one in the thorax.

We have sometimes heard it remarked of men who seem very dull, that their brains were in their heels. Now, while this is not exactly true of bees, yet it comes very near having brains, or brain substance in the form of ganglia, all over it. They are found on the median line of the body throughout its entire length, there being no less than five of these ganglia in the abdomen, and three in the thorax, with an abundance of nerves extending to all of the organs that have their points of attachment in it. This accounts for the wonderful tenacity of life manifested by these little creatures when maimed or decapitated. It has been remarked that drones have sometimes been known to



Bee's Respiratory Organs.

live longer, when in confinement, with the head cut off than they did without. I have often been surprised to see bees, whose heads had been mashed flat, walking along as though nothing had happened to them.

The term bee is used in two senses. First, to denote the full-grown bee, especially the worker; the second and broader signification includes the bee in every condition. I have been using it almost entirely in the first sense, but permit me now to call your attention to the bee in its

Stages of Development.

I will begin with the egg, which is white, about the size of a small pin-head, and shaped very much like the egg of a bird. It is deposited in the bottom of a cell by the queen, which cell has been previously prepared for its reception by the workers. When first laid it is covered by a glutinous substance which immediately hardens

and sticks it fast. In three days this egg hatches, and there appears in the bottom of the cell a young animal called a "larva," which word means "masked." It being so-called because the true character of the perfect insect is hidden. The larva is fed by the young bees an abundance of food which is probably secreted by one of the special glands of the head previously referred to, instead of a mixture of pollen and honey as has been supposed, and it grows very rapidly. In five days it straightens out in the cell and the bees seal it over. The larva soon spins its cocoon and enters the "pupa" state, so called from its lifeless and puppet-

Larva of the Bee.

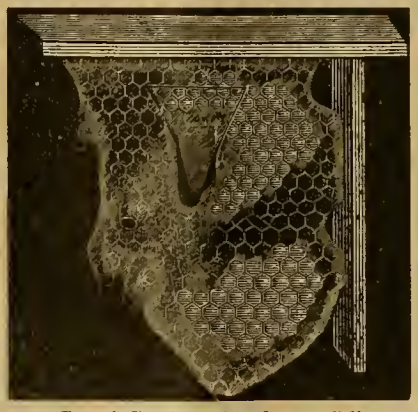
like appearance. It remains in this condition about thirteen days. What it does during this time I would be glad to tell you, but I do not know. I only know that it passes through a gradual transformation until it becomes an imago, or perfect insect. In other words, a young bee full grown, about the twenty-first day after the egg is laid, cuts a circular hole through the capping, emerges from the cell, and begins to walk about on the comb. This is the history of the development of the worker.

But as I remarked before, there are three kinds of bees in each hive and they differ not only in their general appearance and the offices which they fulfill, but they have a somewhat different history as we trace their development from the egg to the perfect bee. The queen begins life in a cell three or four times as large as that of an ordinary worker. Her cell is perpendicular instead of horizontal. From the moment the egg hatches, which is on the third day, the young larva (not a "worm") receives an extra amount of food, which is also richer than that given to the larva of an ordinary bee. This extra food and care hastens and changes her development, and causes her to mature in a shorter time than would the larva hatched from the same egg in an ordinary cell and treated as are the larvæ of worker bees. About sixteen days after the egg is laid, the young queen cuts a circular hole in the bottom of her cell, crawls out on the comb and begins to help herself to the honey about her. In four or five days she comes out of the hive, takes wing, flies away in the air, meets a drone, or male bee, is fecundated, returns to the hive, and, in two or three days, begins her life work of laying eggs.

Eggs that produce drones are laid in cells a little larger than those of the workers, and it is about twenty-four days before his droneship makes his appearance. How it is that the queen is able to lay eggs that produce three kinds of bees so different in their development, appearance and office, is a matter of deep interest, but my space will not permit me to go into an explanation of it. I call your attention next to the

Products of Bees.

The products are wax, shaped into combs, honey and propolis. The early bee keepers and scientists, such as Reaumur and Swammerdam, held to the opinion that wax was made from the pollen, or "bee-bread," as it is sometimes called, which the bees were seen carrying in on their legs. About 1768 it was discovered by a Frenchman that this was not the case, but that it was the result of the secretion of the glands, found in the lower part of the abdomen, under the wax pockets to which I previously referred. It is secreted by the glands in a liquid state, passes through by osmose on to the surface of the wax pockets, and there hardens in the form of little scales. During the busy season of comb building these can be seen protruding from between the segments of the abdomen, with the naked eye. The bee removes them from their resting-place by the use of a peculiar pair of nippers found between two of the joints of the hind legs. They are then passed forward to the mouth where they are mixed with the secretion of some of the special



Brood-Comb—with Queen-Cell.

glands previously referred to, worked up by means of the tongue and jaws, very much like a mason works mortar, until they become soft and pliable.

The bee is now ready to commence comb building, which it does by depositing little bits of wax on the frame where the comb is to be made. Another follows its example, and so the work goes on until "In the darkness and between the bees," to use the language of another, "grows downwards that wonderful combination of lightness and strength, grace and utility, which has so long provoked the wonder and awakened the speculation of the philosopher, the naturalist, and the mathematician."

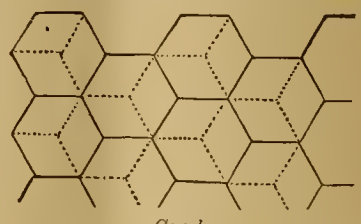
A further description of this comb-building would be interesting had I the time. Suffice it to say that when the comb is completed, it is composed of hexagonal, or six-sided, cells, and is constructed in a way that renders it very strong, and at the same time it occupies the smallest amount of space possible. Five worker cells occupy one inch of space, while four of the drone cells, which are larger, make an inch. This gives about twenty-five cells to the square inch on each side of the comb for the workers, so that, you see, a very small space will contain a very

Ovaries of the Laying-Worker.

large number of cells. The combs are now ready for the queen to lay eggs in them, or for the workers to use them for storing.

Relation to Flowers and Fruit.

There has been more or less prejudice against bees, by fruit-growers who are ignorant of a bee's organism and habits. You frequently hear people talk about bees eating up their peaches, grapes and other fruit, in a way that would lead one who did not know better, to think the bees had jaws, teeth and tusks like a tiger. Now, the truth of the matter is, a bee cannot eat up anything in that way. It has no teeth to do it with, and its jaw is so constructed that it cannot break even the skin of a sound grape. It can only suck or lick up the juice after the grape has burst from over-ripeness, or dry weather, or has been punctured by wasps or other insects. Bees are not only not a detriment to fruits and flowers, but I propose to explain now how they are a great benefit, and that we owe it to them that we have many of our fruits and flowers at all. Sir John Lubbock well says: "Most botanists are now agreed that insects, and espe-



Comb.

cially bees, have played a very important part in the development of flowers."

It has been demonstrated by such men as Darwin and others, that the flowers need the bees as much as the bees need the flowers, and that one is the complement of the other.

The honey and pollen which the bees take from the flowers, is the pay which the flowers give to the bees for services rendered, and the flowers are not injured by removing that which they gladly give. In fact, the bright color of the flower, and the nectar in its bosom are the allurements which it throws out to the busy bee to pay it a visit, and do the plant a service thereby. It has been truly said, "There is a protest made in nature, for some profound, perhaps inscrutable reason, against continuous in-breeding, which applies no

Wax Segments of the Bee.

less to plants than to animals, to flowers than to bees."

To make my point clear, let me briefly call your attention to the structure of a flower, and the law of the perpetuation of plant and animal organism. A plant flowers, of course, that it may produce fruit and seed, but the flower will never mature into fruit unless certain laws are complied with, namely: The male element of the flower must be brought in contact with its complement, the female. A flower is composed of two sets of organs, the essential and non-essential.

The outside of an ideal flower is composed of two rows or whorls of modified leaves. The outer is called the calyx and the inner the corolla, and these make up the non-essential organs, or floral envelopes. The essential organs are of two kinds also, placed one above and within the other. They are called stamens, or fertilizing organs; and pistils, the organs to be fertilized. We will need to look a little more closely into their construction. On the top of the stamens of the flowers there is a little organ called an anther. This is filled with fine dust which is named pollen or "fertilizing dust." The pistil is composed of three parts, two of which are very important, and we must remember their names. They are called ovary and stigma. The middle and less important one is called the style. The stigma on the tip or some other portion of the style, is composed of loose tissue, and is not covered, like the rest of the plant, with skin, or epidermis. The ovary is a hollow case, or young pod containing rudimentary seeds called ovules. Now, these ovules contain the embryo of the future fruit and plant, but they will never mature unless they come in contact with some of the pollen dust of the anther found on top of the stamens of this or some other flower of the same kind.

The moment the pollen touches the stigma, if the stigma is at the proper stage of development and in a receptive condition, it begins to grow and form what is known as the "pollen tube." This tube reaches down through the style, and in some inscrutable way finds and enters the ovule, reaching the embryo sack, and causing the germ there to form into a cell. Thus the new plant-life begins. You say, "what has all this to do with bees? and what have bees to do with this wonderful and intricate process? Simply this and nothing more: They aid the plant by bringing the pollen to the stigma.

They not only bring pollen, but they bring it from another plant, and thus avoid in-breeding which would be injurious to the future plant and fruit. It has been demonstrated that many plants are so constructed as to prevent the pollen of their own stamen from coming in contact with their own stigma. At the same time the flower is so arranged that a bee cannot visit it and secure its nectar, without bringing some of the pollen of another plant of the same kind to its own stigma. As it leaves, the bee takes with it pollen from this flower to fall upon the stigma of the flower next visited. Thus it is the plant aids the bee and the bee the plant, and so the chain of nature is complete. Bees never go from one kind of flower to another, but always to one of the same kind. They go from

Egg-Tubes and Ovaries of Queen.

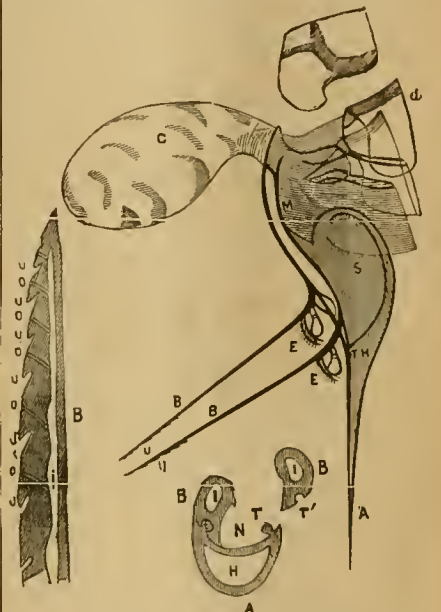
clover head to clover head, and never from clover head to any other kind of flower.

You, no doubt, have noticed how imperfect the apples are in some years. This is caused by cold weather during the fruit bloom which prevents the bees from visiting the blossoms sufficiently to secure their perfect fertilization. An apple is the result of the fertilization of five pistils; and if any of these fail to be fertilized, it is sure to be imperfect.

So you now see we need the bees in order to raise perfect fruit—in fact in many cases, any fruit at all. There was no red clover in Australia, and they could not raise seed there until they imported nests of bumble-bees to fertilize the clover. Italian bees would have answered the same purpose.

Honey and Propolis.

HONEY—the next product which we are to examine. It is the nectar of flowers gathered and stored in the comb where it is subject to a ripening and curing process by the bees. That it passes through some change and receives some secretions from the bee, after it is taken from the flowers, while in the honey-sac, and in the comb before it is sealed over, I have no doubt; but just what these changes are, and the exact nature of the secretion I am not able to tell. There are many theo-



Sectional View of Bee-Sting.

ries and speculations about this, but I have not the time nor disposition to examine them now. Let me say, however, while I am on this subject, that you cannot feed bees sugar syrup and have them make honey out of it. Neither has any one been able to make comb, and fill it by machinery with glucose, and sell it for honey. This has never been done, the popular yarns to the contrary notwithstanding. "Mark this," if you please.

Propolis, from "pro" before, and "polis," a city, is so called because the bees use it for stopping the holes in the hive, to protect their home or city. It is placed, as it were, before the city for a wall of protection. In other words, it is the bee's glue, or cement, with which it stops every crack and crevice in its hive. In fact, in time it gives the entire inside of the hive a coat of this propolis. It is a kind of resinous substance which the bees gather from various sources. They use it not only to stop the cracks of the hive, but to cover up any objectionable or offensive substance which may get into their hives. Drop a snail into the hive, and not being able to remove it, they will stick it fast to the bottom of the hive, and then cover it entirely with propolis.

They also put a thin coating of this propolis over the entire surface of all the sealed honey that is left in the hive over winter, or late in the fall. This

gives it a yellow, shiny look, and causes it to be rejected as second class by most people. But for my own part I think it is greatly improved by being left in the hive late in the fall, even though it is done at the expense of whiteness, which is only a matter of looks anyway.

Now we are at the end of our story for the present, yet I have only touched briefly the wonders of the bee and its work. We can but exclaim, in view of all that we have learned, in the language of Scripture, "Great and marvelous are thy works, Lord, God Almighty; in wisdom hast thou made them all."

St. Joseph, Mo.

EXCLUSIVE.

Should Bee-Keeping be made an Exclusive Pursuit?

Written for the Ohio State Convention

BY DR. C. C. MILLER.

Taking the question in a general sense, if a man should ask me, "Is it best for me to give up all other business and produce honey?" I should answer, "That depends. If your taste is mainly for money-making, the probability is, that, the way matters stand at present, you can gratify that taste more fully in some other pursuit. Still, it is possible that, in a favorable location, if you are fully posted in the business, and have no particular adaptation for money-making in any other line, bee-keeping may be the best thing for you to follow as an exclusive business."

But why EXCLUSIVE in any case? Simply this: The man who devotes his entire energies in one direction is more likely to be successful in that direction. Then, too, there are certain advantages in having a large number of colonies, such as making the cost of fixtures and other expenses less per colony, or, if you please, per pound of honey produced. In short, the reasons that, in general, during the past fifty years have tended to such a great subdivision of labor in all departments, apply with equal force to bee-keeping?

But suppose you have a liking for bee-keeping, and at the same time have ability in another line that is far more remunerative to you, say practicing law. By no means send the law adrift unless you have a strong dislike to it, but keep a few colonies as a recreation. The man who devotes his entire energies to the law as a vocation is likely to be a good lawyer, for one vocation is better than two; but, if, as an AVOCATION, he keeps a few bees, he may be the better lawyer for it.

Going still further down in the scale, or, rather, up, we come to the man who cares for money only for the enjoyment to be gotten out of it, and the good to be done with it. His business is, perhaps, that of a traveling salesman; and with a yearly salary of $2,500 and all expenses paid, he may be considered hardly sane by his friends to adopt bee-keeping as his sole business, with no prospect of half the annual income. But he replies something like this; "So long as I am a commercial traveler, no matter how much money I make, I am only getting ready to live. Life for me is where my wife and children are, and at my present business I can seldom be with them. Ten years from now I may expect to have laid by enough to withdraw from this distasteful life, and settle down at home to really LIVE. Now, why should I throw away this ten years of my life that I might have, if I settle down to bee-keeping and make a bare living for the rest of my earthly sojourn? No, thank you, I would rather commence to live NOW than to wait for the ten years that may never come."

Against entirely depending on the bees for a living, is the fact that seasons of partial or total failure may come; but this applies to all agricultural pursuits.

I have considered the matter only in its relation to the producer; and as the matter looks to me now, I should say that circumstances and tastes must decide for each one whether he should keep one colony or a thousand.

When it comes to the discussion of consumers' interests, whatever will furnish the best supply of good honey at lowest price is the thing to be desired. The tendency in all departments is toward subdivision of labor; and however nice it may be to talk about having all the stockings knit in the home, the shoes and coats made (as indeed they were not a century ago), still the shoe-factories and the stocking-factories have become almost a necessity. I do not see that honey obeys any different laws, hence it is probably best for the public that honey production become a regularly established business, followed by men who expect to devote their lives to it.

Marengo, Ill.

LIQUID HONEY.

Extracted Honey—its Production and Marketing.

Written for the Ohio State Convention

BY DR. A. B. MASON.

It has been said, that the tendency of the times is toward each one becoming a specialist; and as the struggle for success becomes greater, each one feels that every force must be husbanded and every effort made to accomplish the desired result: but, is it true that the greatest comparative success in bee-culture will be attained by the specialist?

Some know that I do not get as large a surplus of honey as many others; but that is no evidence that I do not know how to get all that my field furnishes. My locality is not favorable to large yields of honey, for, as I said at the Detroit Convention, there is a large city on one side and a wilderness on the other; at any rate, the soil is not favorable to the production of white clover; and linden, except a few trees, is not within the reach of my bees; but there are large areas of boneset, golden-rod, and asters, near by, and the three combined have never furnished my bees with sufficient honey for winter stores.

If I am not mistaken, extracted honey has been in use over twenty years, and its desirableness for table and other uses, when compared with comb honey, has been fully established; and I believe an Ohio man, none other than our friend A. I. Root, was among the first, if not the first, to produce it in America.

Many people know the excellence and beauty of first-class comb honey, which needs no praise; but a first-class article of extracted honey is something with which most people are not familiar, they never having seen its crystal beauty, nor caught its delicate aroma, and never tasted its delicious flavor as gathered from forest and field. When served upon the table it makes a fine appearance, and, to many, "nothing is better for breakfast than hot cakes and honey." It can be poured upon them till they "fairly swim in luscious sweetness." If our table is ever set for a meal, and the pitcher of extracted honey is left off, some one of the family is sure to say, "Please pass the honey." We have no use for honey in the comb, except when we want to show off for company, and even they frequently prefer the fine, richly flavored extracted article.

The aim should be to produce honey for the masses, for those who cannot afford to pay for luxuries.

"A land flowing with milk and honey," both being very nutritious and strengthening, was promised to and was desired by the Jews as the "ne plus ultra" of good things. When properly ripened, white clover, linden, Alsike, alfalfa, and some other honeys, have a sparkling clearness, and the flavor is exquisite, and like other kinds, when candied are free from any liquid portions; and I have no doubt that such honey is generally really nicer than much of the well-capped white comb honey placed upon the market; and if all the extracted honey offered for sale were as thoroughly ripened as is comb honey, the latter would be almost driven from the market.

Is it not a fact, that extracted honey is depreciated in price mainly because its quality is inferior to comb honey, and is inferior because it is not properly ripened, or different kinds have been mixed, thus destroying their distinctive flavor? Each kind should be kept by itself, and so retain its distinctive aroma and flavor. Well do I remember how delicious the honey was that we used to get from bee-trees on the home farm in the East, in my boyhood days. We didn't know what kind it was, but now I know it was linden. To secure plenty of well-ripened honey it will be necessary to have strong colonies to gather and ripen it, and it should be extracted when it can be done to the best advantage of the apiarist and the bees. In the production of such honey it is often necessary to leave it in the hive with a populous colony for some time. When this is not convenient it should be as thoroughly ripened artificially. Many bee-keepers think that honey must be sealed to be ripe. This may be true in some seasons, and in

some localities, but I am sure that it may be sealed before it is ripe, and it may be ripe before it is sealed.

All are aware that there has been a great deal of discussion as to the proper time for extracting, some claiming that it saves honey and time to extract it before it is sealed, and that it is just as good when artificially ripened as when ripened by the bees; while others as earnestly contend that it should be well sealed before being extracted. It seems to me, although I have claimed the opposite to be true, that honey ripened in the hive, whether sealed or not, has a richer flavor, and possesses a finer aroma, than that ripened artificially.

To have plenty of bees, good queens are a necessity; and to give her room to "spread herself" and deposit eggs according to her ability, large hives are needed. For several years I took my surplus from the brood-nest of eight-frame Langstroth hives; but owing to their small size I had to extract often, and sometimes the honey was not properly ripened; and I am thoroughly convinced that an eight-frame Langstroth hive is not large enough for accomplishing the best results in securing extracted honey, although it may be the best for the production of comb honey.

As soon as the colonies are strong, whether in small or large hives, and the bees are building new comb at the top of the frames and in other parts of the hive, put on the surplus story, filled with empty wired combs, if you have them; if not, use full sheets of wired foundation, putting one or more combs of brood from the brood-nest, after having extracted the honey in the super, supplying the place of the comb of brood with foundation.

If it is intended to fully ripen the honey in the hive, and it requires sealing to be ripened, and the honey-flow continues, the super should be raised, and another, prepared as before, put under it as soon as the combs are pretty well filled, and before the bees are in the least crowded for room, and the process repeated as often as necessary; and when the yield from the particular source has ceased, and the honey become thoroughly ripened, all surplus should be extracted, and everything put in readiness for the next flow. If it is intended to ripen it artificially, another super will not be needed, and the surplus honey can be extracted at the convenience of the apiarist, but always before the bees are crowded for room.

"Judicious tiering," some one has said, "will often have a strong tendency to prevent capping, while the ripening process goes on rapidly." I am satisfied—yes, I may say I'm sure—that in some localities and in some seasons it is neither feasible nor desirable to tier up and wait till the close of that particular honey-yield; not feasible, because of the large and rapid honey-flow that would require so large a number of extra combs and supers to hold the surplus; and not desirable, because the honey is very nearly, if not quite, fully ripe without being sealed over. This will possibly account for the difference in opinion in regard to ripening honey artificially, or ripening it in the hive.

In my locality it is frequently desirable and always feasible to tier up and wait till the close of the honey-flow before extracting, and I have of late, frequently asked myself if my eight-frame hives are not partially responsible for this condition of things.

The care of extracted honey is of more importance than it is generally considered to be; for if it is improperly cared for, much of its nice flavor and fine, delicate aroma is either injured or entirely lost. I believe the best results will be obtained by putting the honey in large vessels, preferably tin, for a few days, just long enough to allow all impurities to rise to the top, when it should be drawn off by means of a molasses-gate at the bottom, and into such receptacles as can be sealed up air-tight, and it will not in the least taint it, or injure the flavor. Honey so cared for can be kept as long as desired, and will be just as nice as when taken from the hive; and if such honey only were offered to the consumer, the market would not be overstocked.

I believe the time is not in the near future when there will be an overprotion of a strictly first-class article of extracted honey. Perhaps some of you are wanting to ask me, "What then is the cause of the low prices?" I believe there are two principal causes, and I hardly know which to place first—a poor article or an undeveloped home market; but I believe if I put "the last first" I shall not miss the mark very much. This brings me to the last part of the subject assigned me—"The best method of marketing."

I believe the most important thing of all in marketing extracted honey is, never to sell a poor article. The best time for selling seems to be in the fall and winter. The best way will be just the way your customers have been taught to buy it. Some markets demand tin pails, weighing, when filled with honey, from one to ten or more pounds. Other markets prefer glass pails, holding from one-third of a pint to a pint. Others prefer fruit-jars holding a pint or a quart, the smaller ones selling most readily. In other places the Muth honey-bottles meet with the most favor. Some localities require it candied, and others prefer it in a liquid state. My locality calls for it candied in stone crocks holding from one to four or five gallons.

The best place to sell is in the home market, and the editors of our bee-papers have been telling us so for a long time. Friend Newman, through the AMERICAN BEE JOURNAL, has been singing that tune so persistently and so long that it has become quite monotonous; but for all that, he is right, and he knows it, and seems to be acting under the inspiration of the adage, "Be sure you're right, then go ahead." Friend Root frequently awakes to its importance and repeats the story.

The Dadants have a town of only 1,500 inhabitants in their locality; and although they had 24,000 pounds in 1886, it was all sold in their home market, and at much better prices than would have been realized if sold by commission men in large cities, in competition with others.

A good way which has been adopted by some, is to call at houses and sweeten up the babies, leave a sample of the honey that they have for sale, with a circular, a card, or a leaflet, giving the uses of honey, and the price; and, within a few days, call with the honey for sale.

I should like to refer you to articles on pages 15 and 183 of GLEANINGS for 1886, on marketing extracted honey, and to many other articles on the same subject in the same paper. Do not take GLEANINGS, did you say? Well, you ought to, and then perhaps you would know better how to dispose of your surplus honey. Then turn to the "old reliable," the AMERICAN BEE JOURNAL, and read the articles by G. M. Doolittle (isn't that man wrongly named? but then, we've heard that things sometimes go by contraries), the Messrs. Dadants, and others, and post yourselves as to the how to do it. Did you say you don't take the AMERICAN BEE JOURNAL either? Well, what are you thinking about? Do you belong to the large family of bee-keepers, and are not using the means to inform yourself as to what is going on in the family? Perhaps you belong to the number who do not take any bee-paper because there is so much in them that is of but "little value." You do not talk that way about your grain and vegetables. You do not throw them away because there is chaff and dirt among them. "The good and the bad grow together."

Let me ask, "Where is all the honey produced by the thousands of bee-keepers, sold?" Is it not really in a developed home market? Some of you, perhaps, will say you sell to our friend Muth. Well, where does he sell it? Is it not in a developed home market, that it has taken him years of time, and cost him much labor to work up? Perhaps some of you will say that he ships large quantities to other markets. Suppose he does; do not those to whom he ships sell in a developed home market. Now, if you prefer to pay freight, and friend Muth, or the commission men, and those to whom they wholesale, instead of selling it yourselves, please do not complain about low prices.

Are any of you farmers, and did you ever sell any apples, butter, eggs, corn, or potatoes? How did you do it? Did you sit down in the shade, or by a warm fire, with a great, nasty quid of tobacco in your mouth, and literally befoul everything within reach with your filthy expectorations, or with a well-filled old stump of a pipe fill the air with your (to you) beautiful, and, to others, offensive wreaths of smoke, disgusting, not "the girl you left behind you," but the one you once thought was the brightest, best, and sweetest being on earth? or did you load up the wagon and start out to find a market for what you had produced by earnest thought, and hard and persistent labor? Were you ever ashamed to ask the lawyer, doctor, minister, business man, or any one else, to buy what you had so honestly produced? If you were, and had a first-class article to sell, you belittled your vocation, and disgraced your manhood, and ought to fail.

Just try the same course with your honey, that you do with your other products, offering only a first-class article in first-class shape, and DO'NT TRY TO SHINGLE it. Let the specialists "go and do likewise:" and if they have more than they can dispose of in this way, then sell to the commission men, and they and you, I doubt not, will realize better prices.

Auburndale, O.

SPRING WORK.

Hints to Beginners about Seasonable Work.

Written for the Canadian Advocate

BY A SPECIALIST.

The season in which it is most difficult to manage bees is upon us, and the beginner is apt to make blunders which will decrease his honey crop, if not destroy his colony entirely.

If bees are wintered in a cellar they should remain there if possible until some of the early flowers are out, such as the willows, or even later; colonies may have diarrhea, which will be indicated by the spotted condition of the front of the hive, but unless this is very serious it is better to not take them out of the repository.

The idea that a colony may be taken out of winter quarters and allowed a cleansing flight upon a fine day, to be again placed in the old quarters at night, has been a very general one, but however much our best apiarists may differ upon very vital questions, upon this they are almost if not entirely one. A colony loses by such treatment. By keeping colonies in proper quarters through the changeable spring, when it may be bright, warm and tempting to the bees outside one moment, and raw and chilly enough another to cause the loss of all bees away from the hive, much is gained.

Bees upon their summer stands may be examined if they appear to be weak and short of stores; if you are satisfied they are not, leave them alone. See that the entrances are kept clear, and if there are many dead bees upon the entrance board, you may upon a fine day when bees are flying, assist them in their house-cleaning operations, by pulling dead bees out with a bent wire.

Avoid the exposure of any honey or any manipulation of hives that might tend to start bees into robbing. Of robbing, the inexperienced bee-keeper is perhaps more afraid than the experts are; all dread it after it has been commenced. By having the hive-entrances facing the prevailing spring winds, there is less liability to rob, the scent of honey, if any is at the back of the hive, being driven by the wind in that direction; if the opposite way, it is at the front and only an additional guide to the bees to enter at the front; if at the back they can get no entrance even if they find their way there. If a colony has not lost all fight, instead of contracting the entrance, leave it open, and this method is especially to be recommended if robbing has not yet commenced, and as a preventive.

SELLING HONEY.

Our Local Honey Market, and How to Cultivate It.

Written for the Ontario Convention

BY R. M'KNIGHT.

Until the production of honey in Canada becomes much greater than it is likely to be, the best market will be the home market. I have no sympathy with the class of bee-keepers who constantly lament over low prices and slow sales, who strain their eyes to catch a glimpse of the proverbially green fields that are far away, the verdancy of which pales as they are approached. The demand for houey and the prices paid for it are relatively as good here as elsewhere. I believe that this country needs and will take all the honey the bee-keepers can supply. The experience of the past warrants this conclusion.

What was the production of honey in this Province ten or twelve years ago, as compared with its production now? And what is its consumption to-day? Was there not a ton of honey put upon the market last year—poor though the season was — for every one hundred pounds offered twelve years ago? Then the man who had honey to sell carried it to the drug shop. Now the provision dealers are his best customers. Then honey was used as a medicine, or partaken of as a luxury—now it is frequently found on the breakfast table, and esteemed a wholesome, economical treat of diet. What is the conclusion to be drawn from these facts? Obviously that the demand is keeping pace with the supply; that honey is no longer associated with drugs or enjoyed only by the wealthy, but is steadily working its way into the homes of the poor, who are beginning to recognize the fact that its food value is worth what it costs them.

It is true that the price of honey is now much less than it was a decade ago, but it is also true that bee-keepers' requisites are better, and cost less than they did then; while the demand for what they produce is steadier and more extensive. To my thinking, honey is now selling for all it is worth as an article of food, and he who looks for higher prices, either here or elsewhere, is doomed to be disappointed.

The wholesale price of extracted honey in Canada markets has ranged from seven to ten cents per lb. for some years past, and I know of no market in which our bee-keepers can net better prices. I see nothing to prevent these prices being maintained if bee-keepers only show themselves equal to the requirements of the business they have embarked in. The general law that regulates the price of industrial and food products is, "a living profit on the labor and capital employed in their production," the supply and demand being well balanced.

It cannot be denied that the demand for honey in Canada has kept pace with the supply; neither can it be disputed that present prices give a fair profit on labor and capital employed in its production. The wisdom and duty of cultivating the home market is therefore obvious. It is true that we have good reasons for anticipating a steady increase in production, as time rolls on, but we have just as good reasons to look forward to a corresponding increase in consumption, and a like increase in demand; but these will not follow without an effort on the part of both the individual bee-keeper and this Association to keep the market active and steady. It will be vain to look to the middle men to do this.

The output of the apiary is as yet a comparative stranger in the market, and it must be watched and protected by those most interested, and not left to the tender mercies of those who care only for the profits to be made out of passing it from one hand to another. With this end in view, the wants of our immediate neighborhoods must be fully met by keeping the local markets well supplied, and this should be attended to by those who have most in stock, and most at stake. Such are not the class of bee-keepers who demoralize and destroy the local honey market—their interests lie in the opposite direction and their interests will be conserved by not only abstaining from unsettling the market by cutting prices and unwisely putting their goods into every hole and corner, but by preventing their neighbors, who produce but little, from doing so.

It is, I venture to say, within the knowledge of every one of you, that the cutting of prices, nay the slaughter of honey, is carried on by small out-of-the-way bee-keepers who produce but little, have no regular customers, and whose income is not materially affected whether they sell what little they have at 10 cents or at 5 cents per lb. Such people, having no market already established, and not yet skilled in putting up their little honey in attractive forms, are compelled to sell it at or near home for whatever prices they are offered.

The usual practice of such people is to empty their honey into crocks or milk-pails, drive into the nearest town or village, and there make the rounds of the hotels and grocery shops, disposing of it for whatever prices they can obtain, frequently selling it two or three cents per lb. cheaper to one man than they succeeded in getting from his neighbor, but in most cases trading it off to the shop-keepers for goods. The purchaser getting it by way of barter, is generally willing to sell it to his customers for cash at what it nominally cost him. Thus both retail and wholesale prices are unsettled and the market demoralized.

What is the remedy for this—the greatest obstacle we have to contend against is building up a steady, profitable home trade? I think that the only solution to the difficulty is for the bee-keepers in every community to become honey-dealers as well as honey-producers.

Let them arrange with the dealers I have above described, to take all their honey at the close of the season at prices that is fair to both parties, and thus put themselves in a position to control their own market, and I am persuaded that most small bee-keepers

will be willing to meet their larger brethren in a scheme of this kind. The subsequent operations of the holder must be influenced by his situation. If he be an old stager he will have a greater or less business connection already estabilised. If this be commensurative with what he has in stock, he can bide his time and let the buyer seek him, instead of him seeking the buyer. If it be necessary for him to push sales to effect a clearance of his stock, he may adopt the means successfully pursued by some people, and take to the peddling wagon, If this kind of traffic is distasteful to him he may select a few agents from among the shopkeepers.

It will be a mistake, however, on his part if he seeks to put his honey into every grocery and provision store in a town. If he should succeed in placing it in all, it will necessarily be in small quantities, and when shop-keepers take small quantities of an article they make little or no effort to push sales. If the article be honey, they will likely put a "gem jar" or two filled with it in the window, and stow the rest in some out-of-the-way place where it never meets the eyes of the customer. I would rather sell 1,000 pounds to one dealer than 3,000 to twenty dealers in the same town, at the same time, if I wanted to establish a market in that place. Better establish one good agency and stock it well than supply twenty store-keepers with a little just to add variety to their stock.

Let the holder select his man. He may be a grocer, a provision dealer or a baker. He must be a live businessman, occupying a prominent place on a leading business street, with a showy front to his shop. Make arrangements for the entire use of one of his windows and some space on his counter to be exclusively occupied with your honey for a given time. Then with your goods put up in attractive shop-bottles and suitable boxes, dress, or cause him to dress, his window in such a way that the display will arrest the attention of every passer-by, and I am free to say that man will sell more of your honey in a given time than 20 of his neighbors will do, keeping it as it is usually kept.

But do not stop here. Send a case of your best comb honey to the editor of the town paper and advertise the "show" in its columns. If such a display filled even one shop window in every town and village throughout the country, I am persuaded that we would hear less of honey being a drug in the market, for the jealousy of your agent's neighbors would soon be excited by his customers asking for that which he has not got, but which might be seen in such rich abundance in his competitor's window across the street.

In establishing such agencies, care should be taken to encourage their success by charging no more than a fair price to the agent, and by insisting upon him selling your goods at no more than a fair profit to himself.

The above are some of the many methods by which the local honey markets may be improved by the efforts of local bee-keepers. The aid of this Association can only be of an indirect kind. It can make its power felt, however, and by its local aid it can at the same time effect much general good by keeping the industry and the product of the industry prominently before the public. To this end a portion of the government grant should be set apart, and may be employed in a variety of ways.

A good plan, in my opinion, would be for the Association to offer one or more prizes for the best and most attractive display of honey at the local horticultural and agricultural shows, such aid to be given only to those districts that have organized local associations already affiliated to the parent society. How lamentably bare of such displays are local and county shows generally! Whereas if we were well represented at them, a vast amount of good would be done, in attracting attention and promoting sales.

Still another matter that the Association should take in hand is, the general diffusion of knowledge pertaining to our industry among the masses. Here, again, the general meetings of the horticultural and agricultural societies may be made to serve our interests by our sending to each of them a representative of our Association to remove the prejudices that are too common amongst their members against the so-called ravages of bees amongst fruit, etc.

In nearly every district within our corporate limits there may be found one or more bee-keepers who could worthily represent our Association at such meetings, and who would be gladly welcomed and heard by them, if our Secretary intimated to their officers the fact of his intended presence as our delegate. But to guard against disappointment, in such cases we ought annually to appoint one or more Association lecturers to fill appointments in case no local man was available. The expenses of such would of course have to be met out of the government grant, and in no better way can a portion of it be employed.

"The relation of bees to flowers" might be dwelt upon by the lecturer at horticultural meetings, and would indeed be a very good stock subject at all such meetings, or the work of bees in fertilizing and hybridization might either be incorporated or made a separate subject. Indeed, the subject-matter for lecturers is almost unlimited, and I know we have more than one man in our ranks capable of doing the work in a way that would be at once instructive to his audience, beneficial to the industry, and creditable to this Association.

Owen Sound, Ont.

As we Constantly Hear rumors of a great war in Europe which, beginning on the Russian frontier, may involve all the powers, it is interesting to know how France has prepared for the next struggle with Germany. "France's Bulwarks," in *Frank Leslie's Popular Monthly* for April, is a remarkable and careful article, showing the new lines of defensive works in that country, evidently from careful and cautious study. The whole number is bright and interesting.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and tronble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00.

The Convention. — The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Honey and Beeswax Market.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections, to 14@15c. for off color and condition; 2-lbs., 14@15c. Dark is slow of sale at almost any price. Extracted, 7@9c., with good supply. Light demand.

BEESWAX,—22@23c. R. A. BURNETT.
Mar. 22. 181 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.

Mar. 19. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.

BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI

HONEY.—We quote extracted at 4½@9c. per lb., for which demand is good. Comb honey, 14@17c.—Supply large and demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Mar. 26. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 14@17c.; the same in 2-lbs., 12@14c.; buckwheat 1-lbs., 10@11c.; 2-lbs., 9@10c. White extracted 8@9c.; dark, 5½@6c. Market dull; prices declining.

BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Mar. 10. 28 & 30 W. Broadway, near Duane St.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 17@18c.; 2-lbs., 15@16c.; 3-lbs., 14c. Dark and broken not quotable. Extracted, white in kegs and ½-barrels, 8½ to 9c.; in tin and pails, 9½@10c.; dark, ½-barrels and kegs, 5@7c. Market slow.

BEESWAX.—22@25c.
Mar. 10. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.

BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.

BEESWAX.—21 to 22c.
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@8c. The market is not very brisk and sales are slow.

BEESWAX.—25 cts. per lb.
Mar 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 6@7c. Market quiet.

BEESWAX.—18@21c.
Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

DETROIT.

HONEY.—Best white in 1-pound sections, 16@17c. Extracted, 9@10c. for light colored. Market weaker and supply only fair.

BEESWAX.—22@23c.
Mar. 14. M. H. HUNT, Bell Branch, Mich.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.,; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.

BEESWAX.—No. 1, 20c.; No. 2, 18c.

Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered **immediately.**

BEE-KEEPERS' SUPPLIES

FOR SALE BY

THOMAS G. NEWMAN & SON,

923 & 925 West Madison-St., CHICAGO, ILL

In this and the following pages will be found a list of the Apiarian Supplies for which your orders are solicited. Remember that *low-priced* Goods are proportionately *inferior!* Excellence *is* cheapness!

If Goods are Damaged or not such as were ordered, *do not return them*, but write to us, and we will direct how to dispose of them.

Your Full Address, plainly written, is very essential in order to avoid mistakes and delays.

We Pay Postage on all articles quoted by mail. All others are to be sent by express or freight, at the purchaser's expense.

Goods will be Sent C. O. D. only when sufficient money is received with the order to pay charges both ways, in case they are not taken from the express office by the person ordering them.

How Goods are to be Sent, should be very distinctly stated. Anything to be shipped by freight should be ordered from 10 to 30 days before needed for use, according to the distance from Chicago. Express charges are high on long distances, and heavy goods should not be sent by Express, unless particularly needed for use at once.

Credit.—We sell on *small* margins, and cannot afford to take the risk of selling on Credit. If we did a credit business, we should be obliged to add from 10 to 20 per cent. to our present prices, to make up for those who never pay, and for clerk-hire to keep books, etc.—this we know our cash customers would not think to their advantage. In order not to do injustice to any one, we make this an **invariable rule—therefore do not ask for credit.** This system gives all the advantage to "cash customers," but the "credit system" works to their injury. We therefore always require **Cash with the Order.**

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2 25
500 Labels	2 00	3.00	3.50
1,000 Labels	3 00	4.00	5.00

☞ Samples mailed free, upon application.

OPINIONS OF OUR PATRONS.

Before proceeding to enumerate any of the Goods we offer for your selection, we desire to call your attention to a few among the many unsolicited testimonials we have received concerning our Goods, and our promptness in filling orders. Please read the following:

Best.—The parcel came in due time. The veil and gloves are the best I ever saw.—G. H. PUGSLEY, Canada.

Well Pleased.—I am well pleased with the Excelsior Extractor. It beats the one I have been using, and is strong and durable.—H. W. HITT, Illinois.

All Goods as Represented.—Thanks for the promptness my orders receive at your hands. All the goods are fully as represented. —R. E. GIDERSON, Illinois.

Prompt.—The hives came all right. Thanks for such prompt attention to my order. Hereafter I will know who to trade with.—JOHN D. MOORE, Illinois.

All in Good Order.—The hives and supplies I ordered of you came promptly, and in good order—in fact in better condition than I expected.—JOHN T. SNYDER, Illinois.

It is a Daisy.—The Bingham Smoker you sent me is the best I ever saw, though I have used four other kinds; but not one of them will begin to come up with this. It is a daisy. —D. S. WAY, Iowa.

The Best Extractor.—I like the Excelsior Extractor very much. W. M. Kellogg was here a few days after I got it, and he said it was the best extractor he ever saw.—J. M. AIKEN, Illinois.

Deserve a Gold Medal.—The foundation you sent me arrived here in just 36 hours after the order was placed in the mail here. I think you deserve a gold medal for your promptness in business at all times.—JOSHUA BULL, Wis.

Gratitude for such Promptness.—I must express my gratitude for the promptness with which you filled my orders for supplies during the season; also for the valuable information which the AMERICAN BEE JOURNAL brings every week.—A. SPERLING, Ills.

Convenient.—I have tried your honey kegs and find that that they are what we have long needed. They are made in a workmanlike manner; they do not leak, require no waxing, and are of very convenient size.—A. A. E. WILBER, New York.

Complete Machine.—The Excelsior Extractor is the most complete machine of the kind that I have seen. It seems impossible to make one more perfect. I have been waiting to get one to suit me, and now I can exclaim "Eureka."—E. SECOR, Iowa.

Entirely Satisfied.—The goods reached me in five days; thanks for your usual promptness. I wish to express my entire satisfaction in all my dealings with you. The articles have been shipped promptly, and upon arrival proved to be as represented.—GUST. MURHARD, Oregon.

Gave Entire Satisfaction.—The goods you sent me were all first-class, and gave entire satisfaction. I would not part with the Conqueror smoker or the honey-knife, if I could not get others like them. Thanks for filling my order so promptly; this I find, by experience, is your way of doing business.—GEORGE W. HARRIS, Indiana.

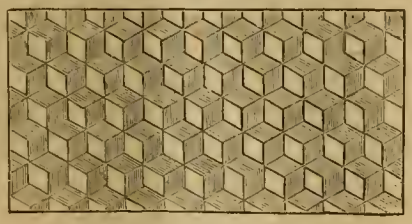
My Best Friend.—I could no more do without the AMERICAN BEE JOURNAL than without my meals. I have always regarded it as my best friend and adviser in the management of my 50 colonies of bees. I know of nothing that could be compared to it, unless it be the excellent four frame extractor, and other articles purchased from you for the proper conducting of our apiary. Thomas G. Newman & Son is, with us, synonymous of all that is staunch and good. The book, "Bees and Honey," has been, and will always be, our guide. It is our ambition to establish an apiary second to none in the State.—D. A. DIMITRY, Louisiana.

SUPPLIES FOR BEE-KEEPERS—For Sale by Thomas G. Newman & Son, Chicago, Ills.

Comb Foundation for Brood-Frames.

All our foundation is made by Dadant & Son, who have justly earned the reputation of making the best foundation in the world.

We keep four sizes on hand, viz: 4¾x17, 12x18, 8x16½, and 10x11, and can fill orders in any quantity, promptly. Orders for special sizes filled within a week of the receipt of the order, without extra charge, and it will be shipped direct from the factory.



One pound, by mail, postpaid, small sheets	65c
1 to 10 lbs., per lb., by express	40c
11 to 25 " " "	39c
26 to 50 " " "	38c
51 to 100 " " "	37c

Prices Subject to Change, Without Notice.

BEESWAX.—We pay the current market price for Beeswax, as quoted in the AMERICAN BEE JOURNAL, cash on arrival. The name of the shipper should be put on every box, to prevent mistakes.

Thin Foundation for Surplus Honey.

We keep three styles of thin foundation for comb honey in sections. The figures in the first column giving the prices of the THIN—9 to 10 square feet to the pound. Those in the last column being the prices of the EXTRA THIN, and also of the Van Deusen (with flat bottom)—11 to 12 square feet to the pound:

	THIN.	EXTRA THIN.
1 to 10 lbs., per lb., by express	50c	60c
11 to 25 " " "	49c	59c
26 to 50 " " "	48c	58c
51 to 100 " " "	47c	57c

Wired Comb Foundation.

This prevents sagging, making all combs strong and durable. It has flat-bottomed cells, exceedingly thin and even, the wire being incorporated into it. It is for use only in the brood-chamber. Size, 8x6½ and 10x11 inches.

1 to 25 lbs., per lb	60c
25 to 100 " "	58c
Samples of all kinds, by mail	10c

Comb Foundation Mills.

	Pelham.	Vandervort.	Root.
4 inch Rolls			$10 00
6 "	$9 00	$20 00	13 50
10 "	15 00	25 00	20 00
12 "		30 00	30 00
14 "			40 00

Carlin Foundation Cutter.

Carlin Cutter.

Small size, with tin wheel,....10c
Large size, with steel wheel,..75c

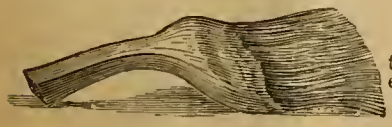
When wanted by mail, add 2c. to the former and 5c to the latter price.

Bee Veils.

The accompanying illustration gives a good view of these veils as they are worn,—making it a complete face protection. Price, by mail, 50 cents.

Bee Veil.

YUCCA BRUSH.



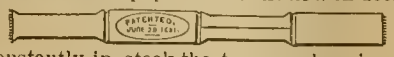
For brushing bees from the combs. Price, 5 cents each, or 50 cents per dozen. Postage, 1c. each, extra.

SECTIONS FOR COMB HONEY.

We carry in stock a large assortment of sections of the various kinds; all being made for single combs. A sample of either style sent postpaid for 5 cents.

FORNCROOK ONE-PIECE SECTIONS.

These are made of basswood, and are all in one-piece with the V-groove. The backs of the grooves should be steamed or dampened with a sponge, to save breaking at the joints. These sections can be put into shape, ready for use, much faster than any other style, and have become the most popular sections now in use.



We keep constantly in stock the two regular sizes, 4¼x4¼ and 5¼x6¼, a trifle less than 2 inches wide, with both narrow and wide tops; these will respectively hold about one and two pounds of honey each. We also have them seven to the foot, with narrow tops. The following are our latest reduced prices:

	4¼x4¼	5¼x6¼.
In quantities of 1,000	$3 50	$4 00
" " 500	2 00	2 25
" " 250	1 25	1 50
" " 100	60	70

DOVETAILED SECTIONS.

These are made in four pieces, 5¼x6¼, with wide or narrow tops; all a shade less than 2 inches in width. The prices are the same as the one-piece sections.

We fill all orders with the regular sizes, and 2 inches in width, unless otherwise specified.

PRIZE SECTIONS, (TO BE NAILED).

These Sections are made only of one size, 5¼x6¼, suitable for 5x6 glass, if desired, and are a trifle less than 2 inches wide. The top pieces are grooved for foundation. Being made by machinery, they are accurately and smoothly cut, and when packed in the Prize Crate, are very desirable and attractive. We keep two styles of these sections—wide and narrow tops—at the following prices:

	Narrow top.	Wide top.
In quantities of 1,000	$4 00	$4 50
" " 500	2 25	2 50
" " 250	1 25	1 50
" " 100	60	70

ODD SIZES, of any style, 5x6 inches (or less), will be made to order in quantities not less than 500, and will cost $3 for 500, or $5.00 per 1,000, and can be furnished in about a week from the receipt of the order. They will be shipped direct from the factory.

WIRE NAILS.

We carry a full line of wire nails, and can fill orders for any quantity promptly. For nailing Sections, Cases, Frames, Racks, Crates, etc., they are very essential.

The entire length of the nail being the same thickness, they do not loosen like ordinary iron nails, and are not as liable to bend or break. They can be easily driven through two pieces of tin.

From the assortment of lengths given in the table below, any kind of nailing may be done, even to making large boxes.

Length of Nails.	Size of Wire.	Number in one lb.	Price.
⅜ inch long,	wire No. 20,	10,000	per lb 25c
½ "	" 19,	5,330	" 20c
⅝ "	" 18,	3,300	" 16c
⅞ "	" 18,	2,750	" 15c
¼ "	" 17,	1,780	" 13c
1 "	" 17,	1,555	" 12c
1¼ "	" 16,	910	" 10c
1½ "	" 16,	760	" 10c
2 "	" 15,	435	" 9c

If wanted by mail, add 18 cents per lb. for postage. ☞ We can furnish larger nails—up to 5 inches in length—when desired.

BARNES' FOOT-POWER SAWS.

Fifteen Different Machines.

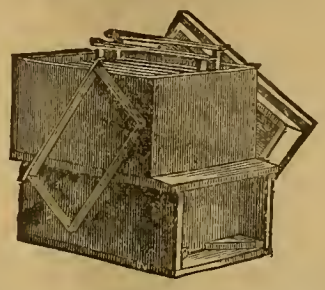
WILL SEND MACHINES ON TRIAL IF DESIRED

A complete illustrated catalogue and price list of these machines will be mailed free, upon application.

SUPPLIES FOR BEE-KEEPERS—For Sale by Thomas G. Newman & Son, Chicago, Ills.

STANDARD LANGSTROTH BEE HIVE.

(14x18⅜ inches inside.)



The dimensions of this hive, and the ten different styles made, are exactly the same as the Improved Langstroth Hive.

SAMPLE HIVES—*Nailed, not painted.*

No. 1.—Brood chamber with portico, 10 frames, 7⅛ inch cap, but no surplus arrangement.....$1 25

No. 2.—Same as No. 1, with the Comb Honey Rack complete.. 2 00

No. 3.—Same as No. 2, with an additional story containing 10 extra frames for extracting, interchangable with those in the brood chamber—a complete 3 story hive:..... 2 50

No. 4.—Brood chamber with portico, 10 frames, and a 7 inch story, with 7 cases containing 21 Prize Boxes, and tin separators, for surplus honey, with a 2 inch cap..... 2 25

No. 5.—Same as No. 4, with an additional story containing 10 extra frames for extracting, a complete 3 story hive..... 2 50

No. 6.—A complete 2 story hive containing 20 interchangeable frames, with a close-fitting—2 inch—cap 1 75

No. 7.—Same as No. 6, with the second story containing seven cases holding eight one-pound sections each (56 in all), and two tin separators attached to each case, complete.. 2 85

No. 8.—A 3 story hive containing 20 interchangeable frames and seven cases, as described in No. 7..... 3 25

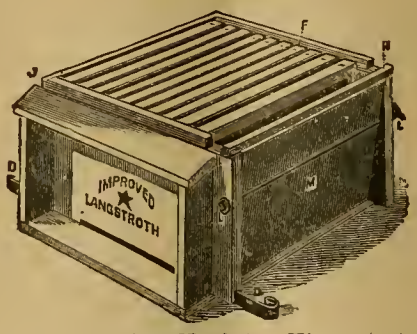
No. 9.—Brood-chamber with portico, 10 frames, and Heddon's surplus arrangement, containing 32 one-pound sections.. 2 00

No. 10.—Same as No. 9, with the surplus arrangement containing 24 two-pound sections..... 2 00

All Langstroth hives have metal rabbets for the frames to rest on.

IMPROVED LANGSTROTH BEE HIVE,

With Manipulating Side.



This is a combination of the North Star Hive, patented by Sperry & Chandler, of Minnesota, and the Standard Langstroth Hive.

SAMPLE HIVE—*Nailed, not painted.*

No. 1.—Brood chamber with portico, 10 frames, 7⅛ inch cap, but no surplus arrangement.....$1 75

No. 2.—Same as No. 1, with Comb Honey Rack, complete 2 50

No. 3.—Same as No. 2, with an additional story containing 10 extra frames, for extracting, which are the same size as those in the brood chamber—a complete 3 story hive 3 25

No. 4.—Brood chamber with portico, 10 frames, and a 7 inch story, with 7 cases and tin separators containing 21 Prize Boxes, with a close-fitting—2 inch—cap 2 75

No. 5.—Same as No. 4, with an additional second story containing 10 interchangeable frames—a complete 3 story hive.. 3 25

No. 6.—A complete two story hive with a close-fitting—2 inch—cap, containing 20 interchangeable frames, for extracting 2 25

No. 7.—Two stories, containing 10 brood frames and 56 one-pound sections with separators, complete..... 3 25

No. 8.—Three stories, with 20 frames and 7 cases containing 56 one-pound sections, (the same as No. 7,) complete..... 3 75

No. 9.—Brood-chamber with portico, 10 frames, and Heddon's surplus arrangement containing 32 one-pound sections... 2 50

No. 10.—Same as No. 9, with the surplus arrangement containing 24 two-pound sections..... 2 50

Parties ordering Material for Langstroth Hives should always order a sample nailed hive, as a pattern for nailing.

MATERIAL FOR LANGSTROTH HIVES—in the Flat, Ready to Nail.

STANDARD LANGSTROTH HIVES [14x18⅜ inches inside.]

Quantity. Numbers	1	2	3	4	5	6	7	8	9	10
5 hives, or more, each,..	$0.90	$1.25	$1.60	$1.45	$1.75	$1.20	$1.70	$2.00	$1.30	$1.30
10 hives, or more, each,..	.88	1.23	1.58	1.43	1.73	1.18	1.68	1.98	1.28	1.28
25 hives, or more, each,..	.85	1.20	1.55	1.40	1.70	1.15	1.65	1.95	1.25	1.25
50 hives, or more, each,..	.80	1.15	1.50	1.35	1.65	1.10	1.60	1.90	1.20	1.20
100 hives, or more, each,..	.75	1.10	1.45	1.30	1.60	1.05	1.55	1.85	1.15	1.15

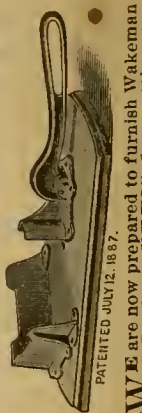
IMPROVED LANGSTROTH HIVES—With Manipulating Side.

Quantity. Numbers	1	2	3	4	5	6	7	8	9	10
5 hives, or more, each,..	$1.30	$1.65	$2.00	$1.90	$2.20	$1.65	$2.10	$2.45	$1.65	$1.65
10 hives, or more, each,..	1.28	1.63	1.98	1.88	2.18	1.63	2.08	2.43	1.63	1.63
25 hives, or more, each,..	1.25	1.60	1.95	1.85	2.15	4.60	2.05	2.40	1.60	1.60
50 hives, or more, each,..	1.20	1.55	1.90	1.80	2.10	1.55	2.00	2.35	1.55	1.55
100 hives, or more, each,..	1.15	1.50	1.85	1.75	2.05	1.50	1.95	2.30	1.50	1.50

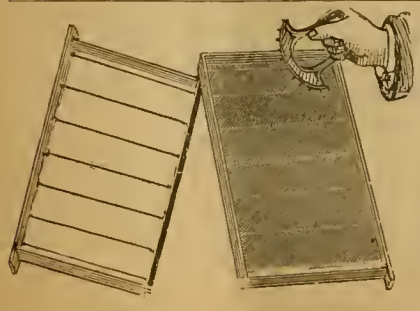
☞ The top and bottom boards, on all the Hives, are in one piece. ☜

☞ We make Hives Nos. 4 and 5 to contain 28 one-pound sections, at the same prices, when so ordered. ☜

SECTION PRESS.



WE are now prepared to furnish Wakeman & Crocker's **PRESS for putting together One-Piece Sections**—at wholesale and retail. Price, $2.50, by express. By the dozen—rate given upon application.



Wiring Tool,

FOR

Pressing Foundation

INTO

WIRED FRAMES.

SOMETHING ENTIRELY NEW.

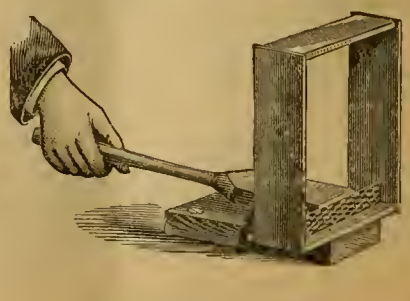
Price, by mail, 20c. By express, 15c.

PARKER'S

Foundation Fastener

Price, 25 cents, by express, or 40 cents, postpaid. Suitable for 1 lb. sections.

The fastener should be screwed to a table. The illustration will show the position of the section and foundation, and the method of operating.



THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. March 28, 1888. No. 13.

EDITORIAL BUZZINGS.

Soon the Bees will gaily hover,
O'er the fields of blooming clover;
Searching for the sweets there yielding,
When caressed by love's gay rover.

Have you heard the jolly varlet?
Scarlet-breasted, piping clear,
Robin's sure that earth is waking,
Shaking sloth, and Spring is near!

The gentle showers soon will come,
From more genial Southern skies,
On the barren hillsides falling,
And bid the flowers to "Arise!"

Statistics.—In offering his service as a reporter of bee-keepers' statistics for Yates County, N. Y., Mr. A. F. Robson remarks as follows:

I am interested in this matter, as I own 200 colonies, and I think that this is *the* method. The plan of gathering the statistics by the assessors will not work in this (N. Y.) State, for personal property is exempt to the amount of one's debts, and so in most cases no questions are asked.

It is very difficult to mention any method which will be suitable to such a vast country as America.

We Regret to learn that Mr. A. Pinkerton, of Marshalltown, Iowa, was thrown from a load of wood some six weeks ago, and dislocated his shoulder, as well as injuring his neck. He is getting better now, but it was a great affliction for the family—his wife having been afflicted with dropsy for several years. His report concerning the wintering of his bees, is as follows, and is dated March 22, 1888:

My 122 colonies of bees are all very quiet in the cellar. The mercury stood at 41° this morning, in the cellar, and has stood at from 40° to 42° all the winter, except one cool morning when it got down to 37° for a short time. My bees have been very quiet, so I think they are doing well.

It Ought to Have a hundred thousand subscribers! This is what Dr. A. B. Mason says of the AMERICAN BEE JOURNAL. It could have them very easily if its many friends would exert their influence for it! We have done and are doing all we can to make it of permanent value to all the bee-keepers in America, and the more subscribers it has, the more it can do for the pursuit. Will our friends kindly induce their acquaintances who keep bees to send in their subscriptions? The Doctor says:

I do not want to praise it too much, but I must say that the AMERICAN BEE JOURNAL is "just a dandy!" It ought to have 100,000 subscribers. If any other bee-paper is worth $1.00, what is the AMERICAN BEE JOURNAL worth?

It looks up at me, when I take the wrapper off, with a bright, clean face; eyes wide open and intelligent. I am just in love with it, and I do enjoy speaking well of my friends when they do a good thing.

As an inducement to our friends to enlarge the number of our readers, we will present a copy of the "Bee-Keepers' Convention Hand-Book," by mail, post-paid, to any present subscriber who will send to this office two new subscribers, with $2.00. Remember you must *claim* the book when sending the subscriptions. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By Laws for a Local Society—Programme for a Convention, with subjects for discussion—List of Premiums for Fairs, etc., etc. It is a valuable assistant to every bee-keeper.

To Clarify Beeswax.—Major A. Shallard, of Glenbrook, New South Wales, Australia, asks the following question: "What is the best way to clarify or clean cakes of dark wax and second quality wax?"

Melting the beeswax in a kettle of clean, hot water will do it. The dirt will separate from the wax and go to the bottom, leaving the wax to "cake" on the top of the cooling water. This will also improve the color of the wax.

Any clean, bright tin-pan will do to put it in, if it *flares* at the top. An iron vessel will generally spoil melted wax when put into it.

Ignorant Bee-Keepers.—E. Israel, of Oak Lawn, Miss., on March 20, 1888, writes us as follows on the average intelligence of the bee-keepers in his neighborhood:

There are 20 bee-keepers in this county, and only myself and one more keep bees for the money there is in them. Three others have frame hives, but they would be better off with box-hives; they do not keep them for pleasure either; they put them into the fence corners, on the ground, or on a box, and expect them to "work for nothing and board themselves," and then complain of getting no honey. Moths consume them, and weeds and briars hide them so that you could not get to them if you wanted to. You could hardly expect such bee-keepers to give the assessor any information, when it would look like taxing an agricultural product.

The Use of Big Words.—Mr. G. B. Sanborn, of Bristol, Vt., writes as follows concerning the use of big words:

I have just commenced in apiculture, and am deeply interested in it, but I find that the writers in this science, as in all others, use too many big words. The uneducated apiarist is unable to comprehend them. Therefore the prolixity of the stratagem might prove detrimental to the cause, as it would keep them assiduous so much of the time trying to excogitate and discriminate the promiscuous magniloquence. So do not be quite so profuse with your *big words!*

Let your conversational communication possess a clarified conciseness, a compacted comprehensibleness, coalescent consistency, and a concatenated cogency. In promulgating your esoteric cogitation, or articulating your superficial sentimentalities and amicable, philosophical or psychological observations, beware of platitudinous ponderosity. Eschew all conglomerations of flatulent garrulity, jejune babblement and asinine affections; and *do not use big words!*

Let your extemporaneous descantings and unpremeditated expatiations have intelligibility and veracious vivacity, without rhodomontade or thrasonical bombast—and *do not use big words!*

Sedulously avoid all polysyllabic profundity, pompous prolixity, psittaceous vacuity, ventriloquial verbosity, and vaniloquent vapidity!

E. H. Cook, in the September number of the *Bee Hive*, on page 89, proposes that extracted honey be obliterated from the English language, substituting "abxeszoimdymfyuvqetjtgk honey" in its place.

Just see the prolixity of that word. I should like to know the ponderosity of that honey, viz: How many ounces would it take to make a pound?

This letter reminds us of a good story which is told of a public lecturer. It is this: One of his audience addressed him thus: "Mr. Lecturer:—Several times during the evening you have used the word periphrasis. Would you kindly inform me of its precise meaning?" "Certainly," said he, "it is simply a circumlocutory pleonastic circle of oratorical sonorosity circumscribing an atom of ideality lost in verbal profundity." We therefore can sympathize with Mr. Sanborn, and also say: *Do not use big words!*

State Statistics on Honey, are in the future to be had in Illinois. We wrote to the Secretary of the Illinois State Board of Agriculture to ask why there was no such statistical information given since 1883, and the following is his reply:

SPRINGFIELD, Ills., March 17, 1888.

THOMAS G. NEWMAN, ESQ.—*Dear Sir:*—Yours of late date is received. Each assessor in the State will in the future collect information annually in May, concerning the number of colonies of bees in each township in the State, as well as the number of pounds of honey produced therein.

The information sent you (1883) is the latest data on the subject, published by this office. Yours truly,

CHARLES MILLS.

We have also received one of the new blanks, but we fear the information obtained in May of 1888, as to the number of colonies of bees in the year 1888, and the number of pounds of honey produced in 1887, will be quite useless for all practical purposes.

GLEANINGS OF NEWS.

Prof. Wiley has again "put his foot in it," when giving the Senate committee on agriculture the result of his microscopic examinations of the various samples of lard submitted to him. He stated that lard made by Armour & Co., and branded "pure refined family lard," contained cotton-seed oil and stearine.

A sample of lard manufactured by Whittaker & Sons, branded "pure unadulterated, honest refined lard," contained no cotton-seed, while a sample manufactured by the same firm, branded "adulterated refined lard," contained cotton-seed oil. He had rendered the head, entrails, and intestines of the hog, and found them to make a pure lard that could not be distinguished from other lard. Leaf lard had a little less color.

Upon being questioned further on the quality of the lard obtained, the daily papers give these questions by the committee, and answers by Prof. Wiley:

Prof. Wiley said he did not think there was any way of distinguishing dead hog-grease from pure lard. The way the hog died had no effect upon the lard.

Senator Blair—These lards made from the intestines are as good as any?

Prof. Wiley—I had just as soon eat compound lard as pure lard.

Senator Blair—Do you eat dead hog lard?

Prof. Wiley—I presume I do. It is just as good as any other. I would as lief eat it.

The chairman—It is charged that manufacturers of lard take dead hogs and throw them in, entrails, hair, and heads, and white grease is rendered from them. Would that be nocuous?

Prof. Wiley—I think not. There is nothing deleterious in decomposed animals.

This opinion of the *wily* professor is so *disgusting* to every honest man that the daily papers are administering to him a a severe rebuke for such charlatanry. The Chicago *Times* remarks as follows:

It is pleasant to be informed by Prof. Wiley, Chemist of the Department of Agriculture, that there is no way of distinguishing dead-hog grease from pure lard, and that the way the hog dies has no effect upon the lard. In that case, success to the adulterators. There cannot be too little hog's grease or too much cotton-seed oil and stearine in what is eaten as lard.

This is the same "skunk" who deliberately and wilfully endeavored to ruin the production and sale of "pure honey in the comb," by inventing his *lie* about the manufacture of combs out of paraffine, filling them with glucose, sealing them up with hot irons, and selling such as pure honey.

His work is all in the interest of *adulterators*—paving the way for their fraudulent products, and then covering them with the mantle of the United States National Chemist—saying that the abominable death-dealing, filthy and fraudulent production is *just as good as the pure article!!*

Such nefarious schemes put to blush the honest and honorable—deceives our Governors and legislators, destroys honest commerce in healthy products, and fills the mouths of *clergymen* in other lands with wonderful stories about adulterating bee-farms and the like, which exist only in the imagination of these would-be sight-seers!

This *wily* scamp and his followers are doing more damage to morals and honest dealing, than all other influences combined.

Seasonable Truths.—In her inimitable style, Mrs. L. Harrison crowds into one short paragraph in the *Prairie Farmer*, all these *hints* on important subjects for the present season:

Bee-keepers have been under a cloud the past year, but it is lifting, and clear sky appears. According to reports from all points North and West, bees have wintered well. The colonies out-doors have had frequent flights; those in the cellar are healthy, and the outlook is good. It is refreshing during these freezing nights and chilly days (March 13) to read of bees swarming and gathering honey in Florida and Louisiana. The blue-birds made a mistake this year, and returned to this locality too soon. Those who have bees in the cellar, should not be in a hurry to put them upon the summer stands, but let them remain until danger of freezing weather is past. Such a thing as a bee-keeper regretting that he did not remove his bees from the cellar earlier, has never been heard of, but the opposite has. If the bees are uneasy, give them a drink, and they will quiet down; sweep up the dead bees, and give the others fresh air, but let them remain.

Crop Reports.—Mr. Caleb L. Sweet gives us a "Prime" thought on obtaining reliable statistics. He says:

As you request correspondents to suggest plans for gathering statistics, let me state that Mr. Samuel T. K. Prime, of Livingston, Ills., is running one of the greatest bureaus of private "crop reports" in the world. I do not know how many correspondents he has in the United States and Canada, but my number is 1212. Correspondents get their circulars once a month, which is a summary of the correspondents' reports for their labor. Dealers, I suppose, pay him. He might take hold of this for the honey producers, and ask his reporters the questions desired. Under this plan the producers and dealers could have the reports by paying for them, while the consumers would not, to any great extent, be informed.

We have commenced a correspondence with Mr. Prime, to ascertain whether such an arrangement as that suggested by Mr. Sweet could be made at the terms upon which it could be consumated. As soon as we receive anything definite, we will inform our readers most fully. We are making progress, and hope to evolve something of great value to bee-keepers.

Mr. Geo. E. Hilton has had the second thousand of his pamphlet on the production of comb honey, printed at the office of *Gleanings*, and it is needless to say that the printing is a grand improvement on the former thousand, which was evidently done where they had no facilities for such work, and no experience in doing it. It is a great mistake to have books or pamphlets printed in such places. "Botch work" is all that can be expected in such cases, and all that is ever realized.

Entrance Controller.—Mr. A. C. Tyrrel, of Madison, Nebr., has sent us a contrivance for controlling the entrance of hives, by enlarging or ensmalling it. It consists of a bent piece of zinc with four holes, having another piece with three of such corresponding holes, which can be slid along, and thus make the entrance of any size desired. Mr. Tyrrel thus describes it:

I use the device on my hives to prevent robbing and swarming, and it is a drone-excluder. To open, push the slide one space to the right. This will allow the worker-bees free egress and ingress, and prevent queens from emerging. This latter is to be used in case it is necessary to be absent for a time from the apiary during the swarming season. To leave but one bee-space, in case a colony is being robbed, push the slide one space to the right, if the spaces are already open; if closed, two spaces to the right.

When extracting or taking comb honey, if robbers are a source of annoyance, every hive can be closed quickly and effectively by simply pushing the slide so as to close all the open spaces. If the weather is hot, leave a half or quarter space open for ventilation.

The device is placed in front of the entrance to my hives. It has eleven spaces, but any length can be made to correspond with the hive used. A wire nail put through the upper right hand corner, allows it to swing to its place, perpendicularly with the edge of the hive, when not in use, and fastened with a small tack; which, when taken out, lets it drop to its place in front of the entrance, and it is ready for use.

If it is desired to diminish the number of drones, or save the best for breeding purposes, after they leave the hive for a flight, drop the trap to the front of the entrance, and open the spaces. The workers can go in and out, but drones cannot get back.

I find this device much better than blocks I have used heretofore, for it is always at hand. It works like a charm.

Statistics at Conventions.—Mr. D. A. Fuller, of Cherry Valley, Ills., makes the following inquiry:

Why cannot the desired statistics be gathered at the bee-conventions better than any where else, by the use of cards?

As not one in fifty bee-keepers ever attend bee-conventions, taking reports from members who attend them, would be totally inadequate for statistics of the industry. To be of any value, statistics must include all the product of honey and beeswax, as well as the number of colonies of bees.

One of Our European subscribers, who is an Episcopal clergyman as well as an apiarist, desires to locate somewhere in North America, where he could in addition to pastoral duties devote his time to bee-keeping. If any one knows of such a combination, offering a permanence, he may address this office, and we will communicate with the clergyman.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages).....$1 00
" 100 colonies (220 pages)..... ..... 1 25
" 200 colonies (420 pages)..... 1 50

Ekes and Nadirs.—Many of our readers will wonder what is the meaning of "ekes," as mentioned by Mr. Dadant on page 199. An "eke" is a small additional story (generally a half-story) placed *under* a hive to add to its capacity. A "*nadir*" is a *whole* additional story placed under the brood-chamber for the same purpose.

These contrivances are used in Europe, and the followiog from the British *Bee Journal* will give more descriptive information concerning them, and their uses :

NADIRING.—Nadirs or nethers are vessels of wood or straw, or a compound of both, or a compound of both with glass, to be placed beneath a stock hive, either for the purpose of increasing the breeding space or providing storage room for honey. A nadir for a straw skep would be exactly similar to about 4 inches of the lowest part of the skep itself, supposing it to be cut off evenly ; it is, however, made separately, and usually in the form of a straw ring of the same diameter as the skep, and when placed under the latter their junction is luted with a mixture of cowdung and clay, which form a hard cement, impervious to insects. The rim of an old barrow-wheel is often called into service as a nadir, and sometimes a simple wooden hoop is used.

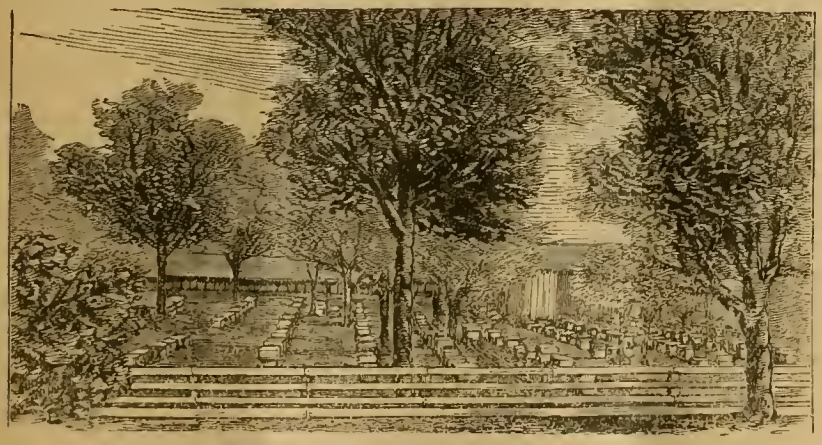
With bar-frame hives shallow boxes are used of about half the depth of the stock hive, and fitted with frames to correspond. In ordinary box-hives similar shallow boxes are used without frames—the object being simply (as in the other cases) to increase the depth of the stock hive. In all hives where nadirs are used as above, the entrances should be kept in their original positions, *i. e.*, on the floor-boards, the nadir being intermediary between it and the stock hive. When nadirs are used as receptacles for honey, means are usually adopted to prevent the queen and drones from gaining access thereto, which is generally effected by interposing a slotted board or adapter, which will admit the workers only; and in that case the entrance to the hive must be on a level with the top of the nadir, so that the bees shall go *down* into it. There should, however, be a way out of the nadir at its lowest part, or the bees, finding it easier to get into than out of the slotted gateway, may become over-crowded and perish of suffocation.

EKES are also used for enlarging a stock-hive, and sometimes for increasing the size of a super. Like the nadirs they are placed beneath, to increase the depth of the hive or super, bnt are much shallower than the so-called nadirs. Both nadirs and ekes are sometimes called "raises ;" and when hives are said to have been raised, it is implied that a nadir or an eke, or both, have been placed below the stock-hive.

These "ekes" and "nadirs" bear no relation to a brood-chamber that is divisible, and should not be confounded therewith.

Both large and small hives have their friends and admirers, but we cannot now give space to a prolonged discussion of these points. An article or two on each side will serve to show that this question, like many others, has two sides—and like our wives and babies, each of us think ours the best. This thought is both pleasant and pardonable in us all.

A Section containing a piece of thin comb foundation fastened to the top-bar came to our desk in a tin box, but it was all broken down. It is marked on the wrapper : From R. Barlow, Toledo, O.



Apiary of Mr. J. H. Robertson, Pewamo, Mich.

Fungus and Foul Brood.—Mr. G. Wendelken, of Marietta, O., remarks thus about once having had foul brood in his apiary, and asks the following questions :

"How to cure foul brood" is a subject which interests me. All writers say that bacteria has some connection with foul brood. If these parasites really cause that disease, it is important to know their nature, how they are produced, and how to destroy them. I would like to have the following questions answered in the BEE JOURNAL :

1. Why is fungus sometimes called a plant and sometimes a living being ?

2. Are the bacteria of foul brood plants or living beings ?

Knowing that this was in the line of study of Mr. N. W. McLain, Manager of the United States Government Apicultural Station for Illinois, we sent the questions to him for consideration, and here is his reply :

1. Webster defines fungus as "a term applied by botanists to a large natural order of plants of a peculiar organization and manner of growth, comprehending mushrooms, toadstools, the microscopic plants which form mold, mildew, smut, etc.," and the term "being" he defines in the sense in which it is used in the query, as "an animal, any living creature ; as, animals are such *beings* as are endowed with sensitive and spontaneous motion."

Accepting this definition of terms it would not be proper to speak of fungus, "an order of plants," as "a living being."

2. The disease known as the foul brood disease, is due to the presence of minute vegetable organisms, of the order of plants to which the term fungus is applied, growing and multiplying within the animal or living being.

Bacillus is the term applied to that genus of fungi which multiply in the larvæ and adult organisms of bees.

These micro-organisms multiply by fissuration or division. Under congenial conditions they multiply with astonishing rapidity.

The germs of fungi may be speedily destroyed, and the growth of bacillus in larvæ and bees, arrested by the use of suitable remedies.

We recommend the study of the pamphlet on "Foul Brood," by Mr. Cheshire, which can be had for a dime at this office.

Against Nature.—Many an argument is based on this remark, and the *Review* remarks thus concerning it :

"Not according to Nature." How often we hear this used as an argument against some method ; those using it forgetting that it is not always to our advantage to allow Nature to have her own way. Almost the whole system of modern bee-culture is an innovation upon nature, and we ought no longer to ask, is it according to nature, but, all things considered, is it best ?

The Indiana *Farmer* makes this additional comment upon the matter :

Here is a simple illustration carrying this point still further. We once introduced an Italian queen into a queenless colony, and within a day after being let out of the cage, and before she had laid any eggs, the bees swarmed and were put in a new hive, and the parent colony given a frame of brood from which they reared a queen. Now it would have been "according to nature" to have left the colony queenless both before and after it swarmed, and allowed them to dwindle away. Disregarding this old fogy whim, keeping them in movable-comb hives and handling them by an intelligent and progressive system, saved the bees. This is as far as we use the according-to-nature argument ; of two methods, equally good, take that which most nearly conforms to the natural instincts of the bees.

New Catalogues for 1888 are on our desk, from the following persons:

W. E. Clark, Oriskany, N. Y.—24 pages—Bees, Queens, and Apiarian Supplies.

H. H. Brown, Light Street, Pa.—20 pages—Queens, Bees, and Supplies for Bee-Keepers.

M. E. Phelps & Co., Binghampton, N. Y.—8 quarto pages—Poultry.

S. W. Morrison, M. D., Oxford, Pa.—1 page—Carniolan Queens.

Berlin Fruit-Box Co., Berlin Heights, Erie Co., O.—32 pages—Berry Packages and Apiarian Supplies.

F. R. Pierson, Tarrytown, N. Y.—100 pages—Seeds and Plants.

C. W. Costellow, Waterboro, Maine—12 pages—Apiarian Supplies.

Thos. S. Wallace, Clayton, Ills.—4 pages—Italian Queens, Bees and Honey.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

QUERIES & REPLIES.

MANAGEMENT TO PREVENT INCREASE.

Written for the American Bee Journal

Query 527.—How would it do, when you desire no increase, to let the bees swarm naturally and then hive them on the old stand, placing the old colony close by, and at night or the next day open the hives of the old colonies and shake all of the bees off of the combs in front of the new colony, letting them run in, thus giving the new colony a large force of workers? Then take the combs of brood and give them to weak colonies. You would then have some nice queen-cells to give to others in place of old queens, as it is said that queens reared by natural swarming are best. —Miss.

It will do.—DADANT & SON.

It will do very well.—A. B. MASON.

It would probably do very well.—C. C. MILLER.

It would do excellently, so long as your weak colonies held out.—R. L. TAYLOR.

In case you do not desire much increase, it will do very well.—J. P. H. BROWN.

It would be very fair practice if well executed ; but you would have to dispose of your old queens first, before giving the colony a queen-cell.—MRS. L. HARRISON.

I hardly think that the plan would work well, as the weak colony would be likely to swarm in a week or two after the brood was given them. Otherwise it probably would work all right.—G. M. DOOLITTLE.

Yes, that is a very good plan as long as you have any weak colonies to build up. When all are strong and determined to swarm, what then ?—C. H. DIBBERN.

This is almost too large a subject for so short a space. That might work very well if you always had weak colonies. But it seems to me that I should prefer increase from the colony strong enough to swarm, rather than try and doctor up a weak one.—EUGENE SECOR.

The plan I think will work, but should the honey-flow continue, they may swarm again as soon as queen-cells can be started. You can keep down the swarming impulse in a great measure by giving plenty of surplus room for the bees to store honey in.—J. M. HAMBAUGH.

Your plan will do, but why not shake the bees from the old hive at once, if the swarm is in a hive supplied only with empty frames of wired foundation, and add a surplus story or crate of sections ? It is a risky business to give queen-cells in place of old queens.—P. L. VIALLON.

I see no objection to this plan, but why not permit one swarm ? It will doubtless produce more honey, if the colonies are all wintered well, and cared for in the spring.—A. J. COOK.

Try your plan with a few colonies, and see how you like it. Why not shake all off at the time of hiving, and have it done with, and not wait until night or the next day ?—H. D. CUTTING.

Try it and see. It would be far easier for myself to return the swarm at once. Why not try instead some of the *tested* plans for non-increase, that have been given from time to time in the bee-papers during the past years ? —J. E. POND.

A better way would be to return the bees and remove the old queen, and in five or six days destroy all queen-cells but one ; or, better still, destroy all queen-cells, and give the bees a *young* laying queen. In the meantime, give plenty of room and plenty of ventilation.—M. MAHIN.

Your plan will work well enough, but it necessarily leaves the old queens on hand to intensify the swarming fever the rest of the season, and certainly the next season. I prefer my depletion system, which results in preserving the old colony with a vigorous young queen, and exhausts the *swarm* in storing surplus honey. Of course I mean when it is desirable to suppress increase.—G. W. DEMAREE.

Hiving all the bees of a colony into a new hive on the old stand after swarming, is good practice with a contracted brood-chamber in working for comb honey. But the uniting of the bees should be done as soon after swarming as possible. I had one colony to kill a large number of bees from this operation, put off till the next day.—G. L. TINKER.

This query answers itself, and sets forth an excellent method. The suggestion about the care of queen-cells, and superseding poor queens with those that promise well, is a good one. If the honey-producer does not rear and test his own queens, he goes into the harvest with no correct idea of the efficiency of his forces.—J. M. SHUCK.

It would be good, when you thus have use for the brood in the old colonies. If the weak colonies to which you give the combs of brood, are very weak, do not break up the parent colony until you fear the queen-cells will be hatching. I have practiced this many times, when I could use the brood to better advantage than to make increase. This is coming down to practical bee-keeping in harmony with the prevailing prices of honey. Go on, and soon you will want a hive different from the Langstroth.—JAMES HEDDON.

After disposing of the old queen, it might do to give the colony a queen-cell and carry out the plan proposed, but there are many better methods to pursue, but there is not space enough in this department to give the details. —THE EDITOR.

WIRED FRAMES WITH COMB FOUNDATION.

Written for the American Bee Journal

Query 528.—1. In using frames with starters and full sheets of foundation, would you advise using wired frames ? 2. If so, how should they be wired ?—S.

1. No.—G. L. TINKER.

1. For most people, I would. 2. Diagonally.—MRS. L. HARRISON.

I have used very few wired frames so far, but I shall try more the coming season.—G. M. DOOLITTLE.

1. By all means. 2. I use vertical wires, about 2 inches apart.—C. C. MILLER.

I have no use for wired frames, if good foundation is used, and it is well secured.—J. P. H. BROWN.

When we use wires at all, we use 2 or 3 horizontally. We do not believe in excessive wiring.—DADANT & SON.

1. Yes, every time. 2. I use about 3 or 4 wires equal distances, parallel with the frame.—J. M. HAMBAUGH.

I do not use the wired frames, as I have no difficulty in getting nice, straight combs without them.—C. H. DIBBERN.

1. Yes. 2. I put 8 wires (No. 36, tinned) up and down in a Langstroth frame ; the end ones about an inch from the ends of the frame. I use a Given press, to put in the foundation. —A. B. MASON.

1. No. Certainly not when using starters. If you have the skill to have good, straight combs drawn from foundation without wires, you will like them better than any wired combs.—G. W. DEMAREE.

1. Always and invariably in both cases. 2. Put wires from the top to the bottom-bar about 3 inches apart, with diagonal wires on Langstroth frames, running from the ends of the top-bar to the centre of the bottom-bar. —J. E. POND.

1. If starters only are used, I see no necessity of wire. If full sheets are used, they are an advantage. 2. Perpendicularly, from 2½ to 3 inches apart. —EUGENE SECOR.

1. I do not think that I should, with starters ; but I would with full sheets of foundation. 2. I wire the frames up and down, having the end wire within an inch of the frame end-bar.—A. J. COOK.

1. With starters, no ; with full sheets, yes. 2. That depends upon the size and shape of the frame. A wire stretcher from the upper corners to the centre of the bottom-bar of the frame, will be sufficient with heavy foundation.—M. MAHIN.

I would advise wires always with full sheets, but not with guides. Narrow guides are better than wide ones ; 3 or 4 cells wide is best.—JAMES HEDDON.

1. Yes, use 5 or 6 vertical wires to the Langstroth frame. 2. Sow them back and forth through the top and bottom bars, and draw them just tight enough to hold them straight.—J. M. SHUCK.

1. Invariably with full sheets of foundation. I would also use the wired frames with starters, but have them built between two straight combs. I have had many combs built on wire with only starters, but the building of too many drone-cells is an objection. 2. I use 6 wires running from top to bottom, and also diagonal wires and a tin bar in the centre.—PAUL L. VIALLON.

1. I would, if I had time to wire them, especially for extracted honey. 2. I have used frames wired horizontally, and also perpendicularly, and can see no difference. Last season I wired nearly all of my frames horzontally, with three wires.—H. D. CUTTING.

1. Yes. 2. With perpendicular wires about 2 inches apart, the outside ones being within ½ an inch of the end-bars. Then if there is danger of the top-bar sagging, the wire should be continued from one of the upper corners down diagonally through the middle of the bottom-bar, and from that point up diagonally to the other upper corner ; then a piece of folded tin should be sprung in at the middle of the top and bottom-bars, to keep them the right distance apart.—R. L. TAYLOR.

1. We certainly should not advise wiring frames when starters are used. When using full sheets of foundation there is some excuse for wires, but even then, in ordinary cases wiring is not so necessary as some imagine. 2. Wiring should be done from the top-bar to the bottom-bar, about 2 inches apart, with diagonal wire supports.—THE EDITOR.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

CORRESPONDENCE.

BROOD-COMBS.

Large Combs vs. Divisible Brood-Combs.

Written for the American Bee Journal

BY J. M. HAMBAUGH.

On page 37 of the AMERICAN BEE JOURNAL for 1886, from the pen of Rev. W. F. Clarke, will be found the following :

"The idea of manipulating hives instead of frames, though it may seem very simple to some, and superficial thinkers may hastily conclude that there is nothing in it, is *just going to revolutionize bee-keeping*, and 'don't you forget it,' Mr. Pooh-pooh, whoever you are."

The same writer on page 135, of the same volume, in speaking of the new Heddon hive, says : "That a new revolution is upon us, becomes daily more evident ; no power can check it, and the sooner we fall into line, the less we have to unlearn."

A little further down the column he continues : "That the new hive will gradually supersede all others, and become the 'standard of excellence,' is one of the inevitables to which Mr. Demaree will have to bow with the best grace he can command." Still further on he says :

"This is what I want, and all I want. It is 'long-looked-for come at last.' I have dreamed of a hive like this, and the reality surpasses the dream. It will henceforth be a luxury to keep bees. The hard, slavish work is all taken out of the business, and what remains is mostly pastime. The danger now is that bees and bee-keeping will become too common. Everybody will want to rush into a business so inviting. But little honey will 'waste its sweetness on the desert air,' in the 'good time coming,' etc."

Was ever a hive so lauded at its birth, before its swaddling clothes were fairly donned ? Its praises were echoed, long and loud, all over this broad land ; and such undeveloped "boys" as the Dadants and myself could but hold their breath with wonder and astonishment to see how like a veritable cyclone it would sweep all other hives from the face of the earth.

Two or three years have passed since the birth of Mr. Heddon's cyclone hive, and noticing the reticence of those whom we expected to astonish the world with their wonderful achievements in the apicultural art, I framed my article on page 804 of the AMERICAN BEE JOURNAL for 1887, thinking that I would develop something *pro* or *con*, with the result of Mr. Heddon's article on page 107 of the current volume. My article was intended to bring out the result in plain figures of disinterested parties, who have used all kinds of movable frame, and divisible brood-chamber hives, that a discriminating public might see which are the most profitable to the honey-producers ; and now I ask that these important facts be given, and from disinterested parties.

The reader should turn to page 86, and read Dr. G. L. Tinker's essay on "The sectional brood-chamber, and its advantages." In a former article I have fully refuted Mr. Cullinan's theoretical etchings. I am by no means prejudiced, and stand open to conviction, but the means thereto must emanate from disinterested parties, who can show in black and white the profits of the divisible brood-chamber to exceed those of any other hive. Let us have light.

I have just received the following letter from Mr. Charles Dadant, which is too good to be concealed, and which will speak for itself :

FRIEND HAMBAUGH : What do you think of the article of our friend Heddon, about the large combs ? We are *mere boys* since we are not able to see the advantages of his invention of the divisible brood-chamber, while such *full grown men* as Mr. Heddon and *his students* prefer it.

Some two or three years ago I wrote in the AMERICAN BEE JOURNAL that divisible brood-chambers were used about 250 years ago, by Butler, who, in his "Feminine Monarchy," shows hives composed of three ekes.

I know of at least twelve French writers who described eke hives, one of them, Radonau, in his Manual, published in 1821 (67 years ago), advised the use of well distanced triangular bars above each eke. In 1845 (43 years ago), Chas. Soria, in his "Notice sur la Ruche a Espacement," (space hive) advised to fix these bars above and below every eke, so as to leave a *bee-space* between them. Of course a great many hives were made on these indications. But soon after it was discovered that these bars, hindering the queen, decreased the crop ; so L'Abbe Collin, in his *Guide*, published thirty years ago, advised not to place so many bars, and to use a wire to cut the combs before removing the ekes.

Mr. Hamet, for 32 years editor of the journal *L'Apiculteur* in his *Cours L'Apiculture*, advises to manage a four inch square hole in the middle of these bars, not to so much hinder the bees. Mr. Vignole also, in his book, "La Ruche," advises to use large

combs and roomy hives to increase the crop.

Such ideas are not exclusive to French bee-keepers. The brood-chambers of the standard German hive (*Normalmaas*) is divided in two stories. Mr. Regnier, of Saarlouis, after experimenting comparatively his German hive with the Quinby enlarged, known in Europe as the Quinby-Dadant hive, wrote in the *Revue Internationals L'Apiculture*, that his crop in German hives averaged 22 pounds, while his Dadant-Quinby's averaged 51 pounds (page 259).

In the same number, 318, 1887, page 255, the editor, Mr. Bertrand says: "Some of my neighbors, finding these large Dadant hives even too small, have enlarged them to 13 frames instead of 11, and I have seen some of them filled with bees and honey, together with two half-stories, the whole holding about 120 quarts, inside the frames, all from the same queen."

In the February, 1888, number of the Italian bee-paper, *L'Apicoltore*, page 61, a Mr. Giuseppe Bianchi, says that his Italian (German) hives averaged 67 pounds of honey, and his large *Americana* gave him 264 pounds.

If you desire it, I may give you the opinion as given in the bee-papers of Europe, of one hundred bee-keepers of France, Switzerland, Italy, Germany and Spain, who, after comparative experiments, have adopted the large and indivisible frames.

Had Mr. Heddon experimented seriously, before pronouncing his judgment, he would have added one more vote to the disinterested verdict, in favor of the enlarged Quinby hive, with suspended frames, *a la Langstroth*.

CHAS. DADANT.

[See comments on page 197.—ED.]

FOUL BROOD.

A Method for Eradicating it from the Apiary.

Written for the American Bee Journal

BY SAMUEL BARNHART.

I had 12 colonies last spring, 10 of them being badly affected with foul brood, and the other 2 were not affected at all. My best colonies instead of getting stronger in May, as they should have done, were getting weaker every day. I concluded that they might be affected with foul brood; so I went to see a bee-keeper who has over 50 colonies, and who knows what foul brood is, for his bees had it a year or two before; he pronounced it foul brood of the worst type.

My best colonies had not over two quarts of bees, so I made rough boxes and put the bees into them. Some were put in the cooling room, and some were left on the stands for three days. I boiled the boxes for five or ten minutes, and scalded the bee-house and cleaned it effectually.

On the third day I put them in the same boxes with new frames and full sheets of foundation, using 6 frames instead of 8, and putting in two side-pieces instead of frames. I saved the combs that had any brood worth mentioning, filled a few boxes, and put a few bees with them to hatch out the brood; then I carried them to a neighbor. After they were all hatched out, I treated them the same way.

This was after the middle of May. I treated 3 colonies for a neighbor in the same way, but I did not save any of the brood, there being none to save.

I destroyed the combs, boxes and all. They were in common boxes. Two days after, I put them into new hives, partly filled with foundation. They have done very well, and have had no foul brood since.

I sometimes fear that my bees may have it next summer, as I know of one lot of bees that I am almost certain is affected; but the owner will do nothing with them.

I hived a swarm on nice, clean foundation combs (some only partly drawn out), which I saved. They were too nice to melt up. There had been no brood reared in them. I fumigated them three or four times effectually (almost melted them) with sulphur. I afterwards divided that colony, and they are both strong to-day.

There were 2 colonies not so bad as the rest, I left, thinking that they might get along, but they got worse. I then put the combs that contained any brood worth while, in a clean box, with a few bees, and left them, and they are there yet, and as good as any I have to-day. They were without a queen for fully five weeks; consequently they reared no brood. They lost their first queen; afterwards I gave them two frames with brood, and they now have one of the nicest and best Italian queens, and is one of the strongest colonies I have. Last fall there was no foul brood about them, and they had just as nice, solid sheets of sound brood as I ever saw.

I was born and reared among bees, and could always do just what I saw any other person do. My father used to have about 100 colonies, and any quantity of honey. In 1854 he had 60 colonies in the fall, but had only 10 colonies left in the spring. In 1857 he had 37 colonies. He died that winter, and the bees were nearly all sold at auction. I had then too much to do on the farm, and neglected the bees, but I have never been altogether without bees or honey.

A few years ago I made frame hives and transferred my bees to them, but I became too greedy for increase, and lost them through the winter. I have never used gloves or a bee-hat in either transferring, or in working with bees in any other way. I have a bee-house 18 feet long and 5 feet wide, placed on locust posts close to the ground. The front I have divided into five spaces, and in each space I keep 2 colonies. Those on the upper tier appear to do equally as well as the lower ones. There is a passage-way in the rear 2½ feet wide. It is lined, and has 4 inches of sawdust filled in.

In the winter I pack with straw between and on top of the hives, and also the passage. I have shutters to fit the spaces in front, making it completely dark. They have wintered well in it so far. I can easily keep them from flying, if the weather is unfavorable. I increased my apiary till I had 22 colonies, 14 of which are in the bee-house, and 8 in the cellar. I can see no difference in there wintering. My cellar temperature remains at about 40°. I had them all out on Feb. 11, and they had a good flight.

Greensburgh, Pa.

BEE-HOUSE BURNED.

A Great Loss by Fire—Experience in Bee-Keeping.

Written for the American Bee Journal

BY C. H. BREEDER.

A terrible accident occurred here on March 8, 1888. At 4 o'clock in the morning we were alarmed by our neighbor's screams and rappings, and telling us that our bee-house was in flames. We at once tried to check the fire, but it had advanced to such an extent that it rendered all efforts in vain. The fire started in the smoke-room, in one corner of the building, constructed for the purpose of smoking meats. We estimate our loss at $1,200, with no insurance. This certainly, placed among the ranks of misfortunes, is the greatest loss on record in the bee-line. If all people heed our warning, they will have their smoke-houses away from other buildings.

My Experience with Bees.

About eleven years ago I made my preliminary step in bee-keeping, by hunting and finding bees in the woods, and had 5 colonies the first season in box and log hives. I held no other hive in preference until about two years after, when I realized the vast importance of using frame hives. I saw an account of such a hive, and in making my selection, I preferred the 10-frame Langstroth hive, and at once

ordered ten finished hives; but when they arrived, some of my colonies had been swarming, and this made extra labor to transfer the swarms from the box-hives and nail-kegs into the new Langstroth hives. But it worked with great satisfaction.

This renewed my energies, and my increase became more as year by year passed. I always have kept my bees in strong condition, wintered in a partitioned department under my dwelling-house until the year 1883, when I concluded to build a bee-house and cellar.

My location is on the westerly banks of the Mississippi river, about 12 miles north of Burlington, in which honey has such an extreme demand. Nature has endowed my surroundings with such an abundant of honey-plants of every describable sort which grow in the Mississippi Valley and its adjacent rough bluff lands, and which give the bees every advantage.

The size of the cellar and house was 16x24 feet, made of frame, filled out between the outer and inner wall siding with sawdust, in order to keep extreme cold out of the cellar in winter. It was cool in summer, and a kindling fire would keep it comfortable in winter for making and repairing apiarian fixtures for the coming year.

It consisted of a carpenter-room, honey-room, and smoke-room. The carpenter-room was 12x16 feet, and in it there was a set of carpenter tools, a circular saw, work bench, 69 honey-racks filled with foundation, and comb, all ready for the coming harvest; 12 empty honey-crates of 24 pounds each, and 10 empty honey-crates of 48 pounds each.

The honey-room was filled with innumerable articles used in an apiary, $35 worth of Dadant's comb foundation, a roll of perforated zinc, brood-combs to fill 20 hives, etc.

The garret contained 2,000 one-pound sections, and 1,000 two-pound sections, and 62 newly-nailed Langstroth hives. In the smoke-room had been placed our meats a few weeks ago, for smoking it in the near future. The bee-cellar had an 18 inch wall with a small, opaque window in each side, and end of it. The bottom was well cemented, with a chimney base in the centre, and a hole to carry off the damp air from the cellar. It was ventilated with a 5-inch tile inserted in the wall and extending 130 feet distant. The cellar contained 69 colonies of Italian bees, and on the morning of March 8, all was consumed by the flames.

In 1884 I had 101 colonies, but they became reduced to 69 colonies, by the grasshoppers the first year, and drouth the last two years. In 1887, although there was too much drouth for actual comfort, we had about 200 pounds of surplus comb honey, which sold at 16 cents per pound; and 400 pounds of extracted honey at 8 to 9 cents.

All who keep a few colonies of bees should also read the AMERICAN BEE JOURNAL; for if its instructions are fully complied with, there is no excuse for not becoming prosperous and successful in bee-culture.

Sperry, Iowa, March 14, 1888.

BEE-KEEPING.

Keeping Bees in Missouri, and Fastening Foundation.

Written for the American Bee Journal

BY R. L. TUCKER.

I am 20 years old, and have been in the bee-business ever since I was old enough to do anything. At Arrow Rock, Mo., my father and I now have 86 colonies of bees, most of which belong to him; 56 colonies are pure Italians, 10 are Syrians, or Syrians mixed with Italians, and the rest are hybrids. Our bees came through the winter of 1886–87 almost entirely without loss. They were in splendid condition about April 1, but after that they seemed to build up very slowly.

The spring was very dry. At length the time for swarms and storing to begin arrived, which is about May 25 in this locality, but for some cause or other white clover had a very small bloom, and only yielded honey enough to keep up breeding. After this, I had to feed some of the colonies, especially the hybrids.

Boneset yielded some honey from Aug. 25 to Sept. 5, and on Oct. 1, the hybrids had an average of little over 5 pounds per colony, the Italian colonies about 20 pounds, and the Syrians about 35 pounds.

In preparing them for winter, I took one frame out of each hive, and spread the rest apart, giving the widest spaces to the centre frames. I use the Simplicity hive. I aim to give an average of 30 pounds per colony for winter stores. I fed 500 pounds of honey and 600 pounds of the best granulated sugar, making the sugar into syrup according to the "Heddon plan."

Our report for the season of 1886 is as follows: On May 15 we had 62 colonies in good condition, increased them to 88, by natural swarming, and took about 5,900 pounds of extracted honey, and 700 pounds of comb honey, all from clover, and the bees stored enough fall honey for winter. This time, also, the Syrians were ahead, the average stored by 6 colonies of Syrians being at least 25 to 30 pounds ahead of the average stored by all the rest; they had the same opportunity, and the same attention as the others. I found them to be very cross and ill-natured to handle, but, on the whole, I think them worthy of attention, and that their good qualities more than counter-balance their bad ones.

Fastening Foundation in Sections.

I see that nobody has as yet given a plan for putting foundation in the sections as good as the one I use, so I will explain it:

I use one-pound sections, and full-sized pieces of foundation. Make a paddle 3½ inches wide, and get a stand or box about 30 inches high, and light a lamp and place it on the floor near the edge of the stand. Get a piece of board the width of the sheets of foundation, and place it on the stand, so as to have one end extend out over the lamp. Now all is ready to begin operations.

Place several pieces of foundation on the board with the edges exactly even (the edges of the foundation must extend over the edge of the board at least ¼ inch); turn up the light just right, dip the paddle in some water, and commence plastering the pieces of foundation in the sections. One will soon become very expert at it with a little practice, and it will not take nearly as long to get at it, as it does to tell it.

I have tried all the methods in use so far, and find that this excels them all, because it is quickly done, and if properly executed, the foundation never falls out.

I have been a constant reader of the AMERICAN BEE JOURNAL for years, and it has been a source of much delight to me. I have derived much useful information from it. I would like to hear, through its columns, a discussion of the bee-resources of the country, especially of the South and Southwest.

Nevada, Mo.

BROOD-CHAMBERS.

A Review of Dr. Tinker's Position on Them.

Written for the American Bee Journal

BY JAMES HEDDON.

On page 169, Dr. Tinker has restated his position on the above topic. The Doctor is a very good writer, and the spirit of his sentences is kind, but his criticism of something he knows so little about, seems very unwise.

It is refreshing to know that the Doctor feels so kindly toward me that he would have been glad to promote my interests by saying something good of the sectional brood-chamber.

I believe I have never felt a financial interest in the invention in question, which rose paramount to my enthusiasm in the great improvement I have always believed it to be. This may be a bit of news to the Doctor, and to some others, but it is true, and how plain all will see it when, in the future, they learn the worth of the new hive. The reason why it does not look that way now is because all are looking ahead at something not yet fully conceived of; but if we read up the attacks upon Father Langstroth's great improvements, and the howl against the practicality of his hive, by those who, like the Doctor, had not yet caught a conception of its worth, and then take a look at both the hive and the inventor to-day, all seems clear enough.

At the time when Father Langstroth was being robbed, how many bee-keepers in this country do you think there were that did not think that he wrote his book, "The Hive and Honey-Bee," "for no other purpose than to sell hives and rights?" that every time he tried to explain the grand improvements which *he* knew that he had made (and no one could explain them so well as he)—improvements that he knew would benefit this world thousands of times more than himself alone, some one called it "Mr. Langstroth's interests," just as Dr. T. now mentions: "Mr. Heddon's interests." From whence did the Doctor get such groveling ideas of the person he was praising only one year ago? I do hope that he will give the names of the prompters of that essay. If not, will the prompters themselves do it?

The Doctor says this hive is not the first of my failures, any more than were his "continuous passage-ways" the first of his failures. But this hive is no failure, either with me or with others who have tried it, even so short a time as to only half understand its advantages.

Will the Doctor be so kind as to tell where I ever pronounced a thing *good*, and that too for years, and then pronounced it bad and threw it away for something that existed before it. But the Doctor threw away his continuous passage-way hive at once when my hive came to the public; and first claimed my invention, then acknowledged that it was mine, and procured a right to use it, and used it a little so "Tinkered" as to half destroy its functions; and now he recommends a hive made partly on my plan, but enough different so that (he claims) it does not infringe the letter of my invention, even if it does the spirit. Time will tell about that.

The Doctor speaks truly when he says that a long-time trial may bring out defects that less time and theory did not discover. I am aware of this, so I have more than almost any one else, tested my theories on a large scale, and with many repetitions. Because I was aware of that fact, I tested the new hives two years—all the patent law would allow.

When we get answers to the call that I have made—answers from actual experience, I shall be glad to see how the experience of honey-producers agrees with that of the Doctor, who used a mongrel hive, and who is a very good workman, good writer, but poor inventor, I think.

Dowagiac, Mich.

[With the two articles on each side which have now appeared, the personal controversy between Dr. Tinker and Mr. James Heddon is *closed*. The BEE JOURNAL has too many other subjects waiting a chance for discussion, to give any more room to it.—ED.]

WINTERING BEES.

Season of 1887—Temperature of a Bee-Cellar.

Written for the American Bee Journal

BY JOSEPH BEATH.

My report for 1887 is as follows: On Dec. 5, 1886, I put 30 colonies of bees into the cellar, and on April 20 I took out 29 colonies alive; but they began robbing, and I lost 2 colonies, so I had 27 colonies to commence with on May 1. They were mostly in good condition, but as I made the prophecy in May, that there would be less bees in the spring of 1888 than there was then, I cut out queen-cells to prevent early swarming.

In June there was a fair honey-flow from white, Alsike and red clover. They were working on all at the same time, being about 2 bees on white clover, 4 bees on Alsike, and 1 bee on red clover; my bees being all *hybrids*, and two-thirds of them filled their supers, and increased to 40 colonies.

As I was very busy with my farm work, I only extracted about 50 pounds of honey, so that when the drouth came they had plenty of honey.

Now comes the queer part: Although they had worked on the first crop of red clover, not a bee was to be seen on the second crop, although the bumble-bees were working right along on it, and it was just the same with the sweet clover, smart-weed or heart's-ease. I did not see half a dozen bees at work on them, never a bumble-bee.

We had fair rains in August, so that we had good fall feed for cattle, but no honey until the last half of September, when the strongest colonies filled up their hives again.

About the middle of September I took from the surplus departments of those that had it to spare, and gave to those that needed it, as I thought sufficient for winter, and I did not take off the balance until the middle of October, when I found those that I had fed, were again short, and some that had the upper story full before, were entirely empty below. So, after making them even again, I only took off 200 pounds more honey, making 250 pounds in all.

I then let them alone until Dec. 15, when in the morning I began to carry them into the cellar. But I carried only 6 colonies in, when they became too lively. The sun shone brightly, and they had a good flight. I carried the rest in at night and the next morning, except 6 colonies that had again become too light; for those I made candy, and put it on top of the frames, using about 40 pounds of sugar.

My cellar was at a temperature of about 40°, until the blizzard in January, when it fell to 32°, 30°, and on one day 28°. The bees had been very quiet, just giving forth a contented hum; but as the temperature fell, the hum was less and less, until at 28° I had to put my ear close to the hive in order to hear a sound; this being in direct opposition to the theory that, as the temperature falls below 40°, the bees fan their wings, thrash around, and raise a racket like a man thrashing his hands, in order to keep warm. Have others noticed anything similar to the above?

I thought best, however, to raise the temperature, and did so by placing a lamp in the cellar; the next day it was 32°, and the bees made more noise than they have any other time during the winter. But I think that was caused by the lamp's smoking. I remedied that, and kept it there for 2 or 3 days, until it was again 38°, and they had their natural hum. It has remained so to the present time (Feb. 13.)

I wish to thank those who answered my query about "bees working on red clover." But to get any value out of it, we should know what kind of bees they have.

Corning, Iowa.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Apr. 10.—Wabash County, at N. Manchester, Ind.
F. S. Comstock, Sec., North Manchester, Ind.

Apr. 11.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Apr. 14.—Union, at Menlo, Iowa.
Mrs. J. E. Pryor, Pres., Dexter, Iowa.

Apr. 21.—Central Michigan, at Lansing, Mich.
W. A. Barnes, Sec., DeWitt, Mich.

Apr. 21.—Eastern Indiana, at Richmond, Ind.
M. G. Reynolds, Sec., Williamsburg, Ind.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

May 2, 3.—Texas State, at Greenville, Tex.
B. F. Carroll, Sec., Blooming Grove, Tex.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 7.—Welland County, at Welland, Ont.
J. F. Dunn, Sec., Ridgeway, Ont.

May 8.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

May 19.—Nashua, at Nashua, Iowa.
H. L. Rouse, Sec. Ionia, Iowa.

May 22.—N. W. Ills. & S. W. Wis., at Rockton, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Gray-Birch Sawdust for Pollen.—Frank Wilkins, Pelham, N. H., on March 13, 1888, writes:

I notice that a great many bee-keepers put out rye meal in the spring for their bees to use as pollen. If they will put out gray-birch sawdust once, they will never put out any more rye meal; for the bees will not work on rye meal, when the two are placed side by side. I wish every bee-keeper would try it, and enjoy seeing the bees carry the pollen from it. It must be gray-birch sawdust. I put 8 colonies of bees into my bee-house in December, and they are now in fine condition.

Bees in Good Condition.—John K. Rich, Cato, N. Y., on March 13, 1888, writes:

My 25 colonies of bees are in good condition, with plenty of stores to last them through the spring. I sold the last of my honey crop last week, at 16 cents per pound for the white, and 12½ cents for the dark boney. I have sold it all in my home market. I use a Barnes' foot-power saw, and make all my hives and frames.

Bee-Keeping as a Business, etc.—D. R. Rosebrough, Casey, Ills., on March 2, 1888, writes as follows:

It will never pay to mix up bee-keeping too much with with other work; for then the bees are invariably neglected, if anything has to be slighted. It will not pay to try to make a living from bee-keeping in a poor locality, unless the bee-keeper owns a farm, and will grow honey-producing plants; nor will it be profitable to locate with bees where there are too many old-fogy bee-men. The first year that I kept bees, it paid me better than anything I ever did. I made a *business* of it, and cared for my bees properly; but since then I have had other duties, and have neglected the bees, in consequence of which they have not paid so well. It *pays* to give the need attention to the bees, and to have the honey in straight combs and clean sections.

A colony of golden Italian bees that was close to our kitchen door, swarmed three times one summer, and in about 90 days *all* the bees of the colony were black. They must have stolen an egg from which to rear a queen, or a queen went into the hive from another colony.

My 58 colonies are wintering very nicely, and are in good condition, having been packed well last fall. I think that if blanks were furnished assessors, it would be but little trouble to secure correct statistics of bees, honey and wax.

Bees Wintering Finely.—W. F. Roe, Canton, N. Y., on March 10, 1888, says:

Bees seem to be wintering finely in the cellar, but very poorly on the summer stands, where they are not well packed. My 132 colonies are mostly in the cellar, and are all right now.

First Flight since November.—H. M. Seeley, Harford, Pa., on March 12, 1888, says:

Bees appear to be wintering well. They had a fine flight on Feb. 23 and 24, and from my 7 colonies there was not more than one-half a tea-cupful of dead bees. It was the first flight since the last of November.

Putting Bees Out for a Flight.—B. T. Pierce, Grand Rapids, Mich., on March 14, 1888, says:

I commenced in the spring of 1887 with 26 colonies of bees, increased them to 50 colonies, and secured 800 pounds of honey in one-pound sections, although the drouth caused a poor honey crop. I commenced the winter with 51 colonies, and have lost two; 18 colonies are in the cellar, and the rest are packed on the summer stands. Ought those in the cellar to be put out for a flight, before it is warm enough to leave them out?

[No; not unless they are diseased.—ED.]

Early Spring Expected.—B. A. Manley, Milo, Iowa, on March 12, 1888, says:

Bees seem to be wintering fairly well here. I hear of some bees being in a starving condition, but where they were properly cared for in the fall, they bid fair to winter all right. I put 15 colonies into winter quarters, 2 of them being weak, but the balance were strong colonies. I have full faith in their being ready for work when spring opens. The prospect for an early spring is good.

Apicultural Statistics—Bees Starved.—J. M. Young, Rock Bluffs, Nebr., on March 15, 1888, writes:

Prof. A. J. Cook's letter on the statistic question was read with interest. The plan suggested by that committee is certainly a good one, but then, the method suggested on page 131, of obtaining them by the assessors, is the only sure plan, if it can be adopted.

For the last four years we have spent considerable time and money on this very question, and up to this date we only obtained something over 250 names in the State of Nebraska; some of these names are quite old, and perhaps they do not keep bees now at all. In a great many instances we have sent out postal cards, and in return we seldom get full reports, and in many cases no answer at all. About all we get on them is the bee-keeper's address, and sometimes the number of colonies that is kept.

We came to the conclusion long ago, that if a correct statistics of bee-keeping would be had, no other method was more sure than that of obtaining through the assessors, the same as other farm products are obtained.

Bees throughout this county are wintering poorly, and also throughout other portions of the State. Starvation is the main cause. Perhaps nearly one-half of the bees will die from that cause.

Bees had a Genuine Flight.—Geo. E. Hilton, Fremont, Mich., on March 19, 1888, says:

Tally one more for chaff hives. This has been the first spring day, and the first day that the bees have had a genuine flight since last November. They pounced out of the hives as though they were swarming, and the air was literally black with them. It is certainly a sight to see 85 colonies virtually swarming at the same time. I have not had a single loss so far. The temperature is 60°.

Experience of Two Seasons.—Milo George, Bowling Green, O., on March 19, 1888, says:

So far as I know, bees in this part of Ohio have wintered well. I started in the spring of 1886 with 17 colonies, on Gallup frames, which I transferred to American frames, and increased them to 34 colonies. I obtained about 1,000 pounds of extracted honey, and 75 pounds of comb honey. I put 33 colonies into winter quarters, lost 4, and had 29 colonies in the spring of 1887. Last season was a very poor one, but I increased my apiary to 53 colonies, doubled it back to 39 colonies, and got about 20 pounds of comb honey, and 75 pounds of extracted honey. On Feb. 16 I examined my bees, and found some with 3 frames of brood. I have lost 5 colonies so far. My bees are in double-walled chaff hives.

An Old-Fashioned Bee-Hive.—W. F. Marks, Chapinville, N. Y., on Feb. 27, 1888, writes:

In buying bees a few years ago I came in possession of a hive that was something of a curiosity to me, and bee-keepers who have seen it, said that they had never seen anything like it. The party of whom I bought the bees, said that he started bee-keeping with the same colony of bees 40 years before; or, in other words, that it was the same colony of bees, without intermission, that he started with 40 years before. I had no reason to doubt him, and the hive was so rotten that I had to handle it with great care. It was in the shape of a cone, the brood-chamber being in the centre, and the surplus boxes three tiers, the upper ones projecting over the lower ones, and having the entrances in the bottom part that hung over the lower ones.

Packing Bees for Winter.—Allen Bartow, of Milan, O., writes:

What is there in packing bees for winter? Some say, "Invariably nothing." This is true where they are improperly packed in any one respect. Because bees have suffered and died when they have been poorly packed, is no reason that protection by proper packing is not beneficial.

What is the best protection suited to the climate in which bees are kept, according

to the severity of the winter, as winters vary in the same places? We must study conditions of cold and heat, and see their effect on the bees, as regards their comfort and health. Bees in a state of nature are healthy. Are they ever afflicted with foul brood, or such other diseases? I say no. Man's manipulation has given these diseases to the faithful little workers.

I agree with Mr. Buchanan in most of his conclusions in the usual way of packing, but let us vary that packing just a little, and see what a difference it makes. Have the front or entrance side of a hive with a single wall, and it allows the hive to warm up, and the bees take flight whenever they would be benefited by a flight.

I agree with all that Mr. B. says of the ten-frame hive, and its condition. I would have the outside case as tight and dry as the hive inside, with the bare hive in front, and the hive 2 feet from the ground. This method keeps the bees from flying at every little warm spell that would take bees in single walled hives of ⅞ of an inch, out to perish.

I believe, as does Mr. Buchanan, about ventilation. Any top ventilation is always attended with injury to the bees; while lower ventilation is natural, beneficial and healthful.

Fighting their Own Interests.—J. A. Rickenbacher, Gahanna, O., on March 20, 1888, writes:

Bees have wintered pretty well around here. They had an occasional flight during the winter, which was to their advantage. I think the councilmen and Mayor of that place where Z. A. Clark lives, are fighting against their own welfare.

Diseased Colonies.—J. H. Blanchard, Boise City, Idaho, on March 9, says:

Bees in this locality are not doing very well. I have lost 2 colonies since March 1, from what I think must be diarrhea. My bees were put into winter quarters in a very strong condition, with plenty of bees, honey and pollen; and through all the cold weather, the mercury ranging 28° below zero, they were still strong. I cannot understand why they should die as soon as warm weather comes. When they took their first spring flight, they daubed their hives with a dirty excrement, which I washed off, and thought nothing of it; but they have done the same thing repeatedly ever since. Can any one explain this, and give me a remedy for it? It seems a little strange to me, that they should continue in this way in warm weather.

Fertilization of Queens.—John Andrews, Patten's Mills, N. Y., on March 12, 1888, writes:

I will answer questions 5 and 6 published on page 120 as follows: In rearing queens from an imported Carniolan queen, I had a young queen with a deformed wing, and could not fly; but I wished to save her, as I was short of queens. I put her with a small colony of bees about the middle of October, and kept drones with her until she was put into the bee-cellar about Nov. 20. Being anxious about her on account of the question of fertilization in confinement, I watched her very closely. She did not lay an egg before she was put into winter quarters; her wing had begun to spread out a little, but she had never flown an inch.

The next day after I took her from the cellar (about April 20), I examined her, and she had two good wings, and two frames of brood, larvæ and eggs, with hatching bees. She met an Italian drone, and her bees through June and July were the most evenly marked (two-banded) that I ever noticed. She did not bring her colony up so as to produce any surplus.

The colony being very gentle and handsome, I exhibited them to visitors every few days. In August I discovered that her bees were changing, and I could see no other cause for it, except that she had been out and met another drone; her bees turned nearly back to Carniolans, and what were once my beautiful bees, passed off like the morning dew, and were exhibited no more.

Did that queen meet the drone in the hive? Did she meet the drone the second time in July or August? My answer is, that she did these two things.

Another Carniolan queen, hatched about the same time and in the same lot, had as industrious a colony as I ever had; but she became fertile, and her bees hatched before being put into winter quarters.

Granulated Honey in Combs.—Mary A. Goodale, Clear Creek, Ind., on March 15, 1888, asks:

How shall I proceed to empty brood-combs of granulated honey? I winter the bees on the summer stands, packed inside and outside. The stores are natural, gathered from aster and golden-rod. On examination I found that most of the unsealed honey is granulated; the bees are taking out some of it, but there is so much that I fear they will not remove all of it. Bees are in good condition, and are breeding.

[If the bees do not remove it all, and you do not need these frames of candied honey for spring feeding, you might melt them up, the wax would congeal at the top of the liquid honey, and both would thus become marketable.—ED.]

Storing Surplus Honey.—F. Schmitt, Yazoo City, Miss., on March 19, 1888, writes:

Last fall I had 240 colonies of bees, and I lost 40 of them during the winter. They commenced storing honey in the surplus department on March 17, from fruit-bloom, red-bud and maple.

Wintering Bees in Sectional Hives.—Lighty & Zeigler, Mulberry, Pa., on March 16, 1888, write:

We find none of the faults with the Heddon hive that Dr. Tinker mentions in his essay on page 86. Our bees wintered just as well in the one section of that hive as in the extensive chaff hives. We winter our bees on the summer stands. In 1887 we obtained no comb honey from the colonies in chaff hives, while from the sectional hives we got a few hundred pounds. The season was very poor here. Our bees are equal now in building up.

Moving Bees from the Cellar, etc.—A. Pinkerton, Marshalltown, Iowa, on March 13, 1888, writes:

The place where I have always kept my bees when on the summer stands is near the street, the first row of hives being within a few feet of it, and the last row 180 feet. I wish to move the front ones back when I put them out of the cellar. 1. Will it do to put those that have been in front, in the rear, or had I better move them all back, and keep the same in front that were there last fall? 2. Will Alsike clover do well on black, sandy soil, on a hillside, if sowed with oats?

Perhaps some would like to know how to keep bees from coming out of the hive when carrying them in and out of the cellar. I take 3 or 4 linen towels, wet them in cold water, and place them in the entrance of the hives, so as to close the entrance; then after carrying the hive where I want it, I take the towel away, and not a bee will stick to the cloth. I learned this of Mrs. Dr. Lewis a few years ago, and I find it a great advantage if the bees are a little cross.

[1. Some pay no attention as to how the hives were placed in the previous season, when putting the bees out of the cellar in the spring, allowing them *then* to re-mark their locations. If it was thought more desirable to have the hives stand in the same relative position, we should advise moving them all back to the required distance.

2. Yes; but it would be better to mix "Alsike" with timothy or red clover, or with both.—ED.]

Reversible Bottom-Boards.—James M. Goodrich, South Frankfort, Mich., on March 10, 1888, writes:

On page 170 of the BEE JOURNAL for last year, I described my reversible bottom-board for the Simplicity hive thus: The board is 3 inches longer than the hive; there is a rim on three sides of it, ¾ of an inch wider than the bottom-boards are thick, and the same thickness as the body of the hive. The boards reach across the hive, and are the same length as the hive is wide on the inside, and are halved or matched, the rim being nailed to the board, so that it projects ⅜ of an inch on each side of the board nailed to the hive, which rests on the rim, and this leaves a fly-hole ⅜ of an inch in front, the width of the hive, and the entrance-blocks are held as firmly as in the portico hive, and the bottom-board is the same either side up.

I have now changed the bottom-board by having the rim wide enough to make the fly-hole ⅜ of an inch on one side, and ¾ on the other. This is a great improvement, as one can change to the larger fly-hole by simply reversing, in hot weather or when hiving swarms, and can change back to ⅜ by simply turning it back.

Proper Temperature of a Bee-Cellar.—Geo. H. Potter, Ionia, Iowa, on Feb. 27, 1888, writes:

I have for a long time had a question that I wished answered, and it is this:

I usually have in a bee-cellar from 80 to 100 colonies of bees, in single-wall hives, with honey-boards down tight, and the only ventilation is the entrance, which is ⅜x14 inches. They are tiered five high. What should the general temperature be for bees put in such a cellar? I use a frame 8½ inches deep by 18 inches long, and have been quite successful in wintering; but I find that when the cellar is kept up to 45°, the bees get uneasy. I regulate the temperature by a large-sized oil-stove in the vegetable part of the cellar. I have come to the conclusion that perhaps those bee-keepers who recommend 45° to 50°, remove the honey-boards and spread over quilts, and raise up or remove the bottom-boards.

I have kept bees more or less for the past thirty years, and I just begin to find that I know but very little about the business. The AMERICAN BEE JOURNAL is the first paper read upon the arrival of the mail, and, allowing me to judge, is the best bee-paper published.

[That temperature at which the bees are the most quiet is best. In your case, we would try it at a lower degree, and regulate accordingly.—ED.]

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Why Advertise in the AMERICAN BEE JOURNAL? Here are some good reasons:

1. Because it has a large and influential circulation in every State and Territory, Canada, and other foreign countries.

2. Because it is well-printed, and an advertisement in it appears neat and attractive, and invites a reading.

3. Because it reaches just the class of persons desired—professional men, lawyers, doctors, and the best of the rural population.

4. The rates are low as possible, and the returns from advertisements are satisfactory.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered very soon. We are promised an early spring, and a good honey crop.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Look Over last year's numbers of the BEE JOURNAL, and if any are missing, send for them at once, as we have but few left now, and they are daily becoming less.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

CONVENTION NOTICES.

☞ The Wabaab County Bee-Keepers' Association will meet at North Manchester, Ind., on April 10, 1888. F. S. COMSTOCK, *Sec.*

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. FULLER, *Sec.*

☞ The Eastern Indiana Bee-Keepers' Association will hold its spring meeting on Saturday, April 21, 1888, at Richmond, Ind. M. G. REYNOLDS, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec.*

☞ The Union Bee-Keepers' Association of Western Iowa, will hold their annual meeting at Menlo, Iowa, on Saturday, April 14, 1888, at 10 a.m. H. D. LENOCKER, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited. W. H. BEACH, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice. J. W. BUCHANAN, *Sec.*

☞ The next regular meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on Saturday, May 5, 1888. H. M. SEELEY, *Sec.*

☞ The Marshall County Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Saturday, April 21, 1888, at 10:30 a.m. The subject for discussion is, "Spring and summer management of bees." A general invitation is extended. A good meeting is expected. J. W. SANDERS, *Sec.*

☞ The 18th semi-annual session of the Central Michigan Bee-Keepers' Association will be held in the Pioneer Room at the State Capitol, on Saturday, April 21, 1888. Prof. A. J. Cook will give an address. A cordial invitation is extended to all, as it will be a very interesting meeting. W. A. BARNES, *Sec.*

☞ The tenth annual meeting of the Texas State Bee-Keepers' Association will be held at the bee-yards of Vice-President W. R. Graham, in Greenville, Hunt Co., Texas, on May 2 and 3, 1888. A leading feature of the convention will be criticisms upon subjects that have been mentioned in the bee-papers. A good time is expected, so let all Texas and Arkansas bee-keepers attend. A cordial invitation is extended to all bee-keepers wheresoever dispersed. Remember, no hotel bills to pay at our conventions! B. F. CARROLL, *Sec.*

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Honey and Beeswax Market.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections, to 14@15c. for on color and condition; 2-lbs., 14@15c. Dark is slow of sale at almost any price. Extracted, 7@9c., with good supply. Light demand.

BEESWAX,—22@23c. R. A. BURNETT,
Mar. 22. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.

Mar. 19. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.

BEESWAX.—23c.

Mar. 13. S. T. FISH & CO., 189 S. Water St,

CINCINNATI

HONEY.—We quote extracted at 4½@9c. per lb., for which demand is good. Comb honey, 14@17c.—Supply large and demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Mar. 11. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 14@17c.; the same in 2-lbs., 12@14c.; buckwheat 1-lbs., 10@11c.; 2-lbs., 9@10c. White extracted 8@9c.; dark, 5½@6c. Market dull; prices declining.

BEESWAX.—22@23c.

McCAUL & HILDRETH BROS.,
Mar. 10. 28 & 30 W. Broadway, near Duane St.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 17@18c.; 2-lbs., 15@16c.; 3-lbs., 14c. Dark and broken not quotable. Extracted, white in kegs and ½-barrels, 8½ to 9c.; in tin and pails, 9½@10c.; dark, ½-barrels and kegs, 5@7c. Market slow.

BEESWAX.—22@25c.

Mar. 10. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.

BEESWAX.—20@23c.

Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.

BEESWAX.—21 to 22c.

Feb. 28. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.

BEESWAX.—25 cts. per lb.

Feb. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15@18c.; amber, 13@16c. Extracted, white liquid, 7@7½c.; amber and candied, 5½@6½c. Market quiet.

BEESWAX.—20@24c.

Feb. 18. SCHACHT & LEMCKE, 122-124 Davis St.

DETROIT.

HONEY.—Best white in 1-pound sections, 16@17c. Extracted, 9@10c. for light colored. Market weaker and supply only fair.

BEESWAX.—22@23c.

Mar. 14. M. H. HUNT, Bell Branch, Mich.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.

BEESWAX.—No. 1, 20c.; No. 2, 18c.

Feb. 3. CLEMONS CLOON & CO., cor 4th & Walnut.

Advertisements.

EGGS for Hatching, $2.00 per 13. From Prize Plymouth Rocks and Wyandott Fowls, scoring 90 to 93½. W. C. COFFMAN, Pewamo, Mich.
13A4t

Now is Your Time! Don't Wait!

No. 1 POPLAR SECTIONS,

$3.50 PER 1,000. Special rates on 5,000 or more. Samples free, and Price-List of BEES, HIVES, FRAMES, CRATES, FOUNDATION, SUPERS, &c. I can suit you!

Address, H. P. LANGDON,
13A1t EAST CONSTABLE, Franklin Co., N. Y.
Mention the American Bee Journal.

HOOD'S SARSAPARILLA

Hood's Sarsaparilla is a carefully prepared extract of the best remedies of the vegetable kingdom known to medical science as Alteratives, Blood Purifiers, Diuretics, and Tonics, such as Sarsaparilla, Yellow Dock, Stillingia, Dandelion, Juniper Berries, Mandrake, Wild Cherry Bark and other selected roots, barks and herbs. A medicine, like anything else, can be fairly judged only by its results. We point with satisfaction to the glorious record Hood's Sarsaparilla has entered for itself upon the hearts of thousands of people in New England who have personally or indirectly been relieved of terrible suffering which all other remedies failed to reach. C. I. HOOD & CO., Apothecaries, Lowell, Mass. Price $1.00, six for $5.00 Sold by Druggists and Dealers in Medicines.

13A2t
Mention the American Bee Journal.

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

Friend, See Here!

WE have a good stock of Apiarian Supplies on hand, and we should like to quote you prices on **Cary-Langstroth** and **Standard Langstroth Hives, Frames, Sections, Foundation, etc.**

QUEEN BEES. FULL COLONIES.

Our Goods are well made, of good stock, and prices—well, just send us a list of what you want, and see for yourself.

Address, R. STRATTON & SON,
13A4t HAZARDVILLE, CONN.
Mention the American Bee Journal.

WANTED,

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

THOS. G. NEWMAN & SON,
823 & 825 West Madison St., - CHICAGO, ILLS.

BEE-SUPPLIES, RETAIL AND Wholesale.

The Largest Steam-Power Shops in the West; exclusively used to make **Everything** needed in the Apiary, of practical construction and at **Lowest Prices.** Italian Bees, Queens, 12 styles of Bee-Hives, Sections, Honey-Extractors, Bee-Smokers, Bee-Feeders, Comb Foundation, and everything used by Bee-Keepers always on hand. My Illustrated Catalogue FREE. **E. Kretchmer,**
13A2t 16Etf **Coburg, Iowa.**
Mention the American Bee Journal.

J. C. SAYLES,

MANUFACTURER of and Dealer in Apiarian Supplies. Also Pure Bred

ITALIAN QUEENS AND BEES.

☞ Catalogue free. Send name and address.
13Atf **Hartford, Wisconsin.**

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

15,000 SOLD SINCE 1876.

7,000 Sold Since May, 1883.

MORE than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work that treats of Bees, in the World. Price, by mail, **$1.25.**

☞ Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher,
AGRICULTURAL COLLEGE, MICH.
Mention the American Bee Journal.

Muth's Honey Extractor,

Perfection Cold-Blast Smokers,

SQUARE GLASS HONEY-JARS, etc.

For Circulars, apply to

CHARLES F. MUTH & SON,
Cor. Freeman & Central Aves., CINCINNATI, O.

P. S.—Send 10c. for Practical Hints to Bee-Keepers.
Mention the American Bee Journal.

British Bee Journal

AND BEE-KEEPERS' ADVISER,

IS published every week, at **10s. 10d.** per annum. It contains the very best practical information for the apiarist. It is edited by Thomas Wm. Cowan, F.G.S., F.R.M.S., etc., and published by John Huckle, King's Langley, Herts, England

J. FORNCROOK & CO.,

MANUFACTURERS OF THE

"BOSS" ONE-PIECE SECTIONS,

Patented June 28, 1881.

WILL furnish you, the coming season, ONE PIECE SECTIONS as cheap as the cheapest. ☞ Write for prices.

Watertown, Wis., Jan. 1, 1888.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.
Mention the American Bee Journal.

The American Apiculturist.

—SAMPLE COPIES FREE!—

Address, HENRY ALLEY,
47Atf WENHAM, Essex Co. MASS.
Mention the American Bee Journal.

ALSIKE CLOVER SEED

FOR SALE at $6.00 per bushel. With 2 bushels of seed, sack is free; for less than 2 bushels, sack is 25 cents extra. On board the cars at Mauston. Address,

J. T. SMITH,
12A2t MAUSTON, Juneau Co., WIS.
Mention the American Bee Journal.

The I X L Extractor

LEADS them all for Quality, Efficiency and Price. Place your Orders **early**, and thus avoid delays, giving size of frame to be used.

W. C. R. KEMP,
13A2t ORLEANS, Orange Co., IND.

BEES AND QUEENS READY TO SHIP.

FRIENDS, If you are in need of **Bees** and **Queens**, I can accommodate you at the following low prices: One Colony of Italian Bees, on 8 Simplicity frames, in light shipping-boxes, $6.50; 5 Colonies, $30. One Untested Queen, $1.25; 3 for $3.30; 6 for $6. One lb. Italian Bees, $1.25; 3 lbs., $3; 6 lbs. $5.40; 10 lbs. $8.50. Prices to dealers sent on a Postal Card. Address, **W. S. CAUTHEN,**
13D4t PLEASANT HILL, S. C.
Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. April 11, 1888. No. 15.

EDITORIAL BUZZINGS.

Plant Blessings, and blessings will bloom ;
Plant hate, and hate will grow ;
You can sow to-day—to-morrow shall bring
Blossoms that prove what sort of a thing
Is the seed—the seed that you sow.

We have received a copy of the Constitution and By-Laws of the Newaygo County Farmers and Bee-Keepers' Association, adopted Feb. 10, 1888.

We Regret to learn that Mr. G. H. Knickerbocker, Secretary of the New York State Society, has been afflicted of late with inflammation of the eyes, making it difficult to conduct his correspondence. He is now much better, and we hope will soon be fully recovered.

Mr. Thos. Wm. Cowan, editor of the British *Bee Journal*, was elected an honorary member of the Ontario Bee-Keepers' Society, at its last meeting. We regret to learn that friend Cowan has been very unwell during February and March, and has been confined to his winter home in Lausanne, Switzerland. We hope he will soon regain his usual health and strength.

Fractional Currency is again in demand for sending small sums through the mails. Postal notes are no more safe than currency, and can only be obtained at Money Order offices. Such are very inconvenient to obtain in the country, and silver coins are often lost in the mails. We are glad to note that the bill for the issuance of silver certificates of 10, 15, and 25 cent denominations passed the House on March 19, by 177 yeas to 67 nays. It will doubtless pass the Senate, and soon become a law.

Superseding the Queen.—Ira N. Lyman, St. Peter, Nebr., asks for information as follows :

What is the cause of the queen coming out of the hive on or about March 23 ? I have 3 colonies of bees. I bought a very weak colony early last spring, and one old colony and one swarm in July. The old colony had not swarmed. It stored about 100 pounds of surplus honey ; the other two stored only about 10 pounds more honey than enough to winter them. I put them into the cellar, and they are all stroog this spring. It was from the hive of the new swarm that the queen came out in March. I put it back into the hive on top of the frames, and it soon came out again the second time, with a lot of guards. I put her back on top of the frames at the rear end of the hive, and she came out no more, so far as I know.

I put my bees out once in February, and then put them back into the cellar. I put them out again, and the time the queen came out was the third time I put them out. The cellar became damp, and the combs molded a little. The bees are grade Italians; in home-made Langstroth hives. There is still snow on the ground, in places.

As the queen came out accompanied with guards, she was evidently being superseded by the bees, who judge her not equal to keeping up the strength of the colony. As she did not come out again when put back, she evidently was killed by the bees. You should examine the colony, and if you find it queenless, give the bees a frame of eggs when you have hatching drones, so that they may rear a queen and have her fertilized in due time. Meanwhile it would be well to give the bees some frames of brood from a strong colony, as soon as such can be spared. Or, better still, procure a queen and introduce her to the colony.

The New British Bee-Keepers' Guide Book, by Thomas Wm. Cowan, F.G.S., F.R.M.S., is on our desk. This is a new edition (the ninth, and seventeenth thousand). It is mostly re-written and greatly enlarged, now having 174 pages. This edition contains many new illustrations, and much new matter in our ever-advancing pursuit. This "Guide Book" is exceedingly interesting, and has been translated into more foreign languages than any other apicultural book. Its range of subjects covers the entire ground of practical bee-keeping, as is shown by the topics embraced in its 37 general heads. We can fill orders for it after May 1, at 50 cents, postpaid.

Honey-House.—Mr. G. A. Elliott, La Salle, Ills., on March 31, 1888, writes :

I have about 800 feet of 16-foot lumber which I intend to build a honey-house with ; is there any better plan than 12x12, 8-foot high ? Last year was a very poor one here. I had 10 colonies in the spring of 1887, and only 12 in the fall, which were in Simplicity hives. They have wintered safely, so far. I am very much pleased with the BEE JOURNAL.

We should think 12x12 and 8 feet high would do very well for your honey-house—but it all depends upon your needs, as to the necessary capacity.

While we have been arranging a plan to have the United States Statistician gather statistics regularly and all over the country, Mr. A. I. Root, our friend and co-worker has been gathering from every State, intelligence which shows that there has been only about 15 per cent. of loss in bees during the past winter ; that there is a favorable prospect for a good honey crop ; that for three or four weeks honey has been gathered in the extreme South ; in the middle States the first honey is just now been gathered, and in the northern States none has yet been gathered.

That Bell has commenced to ring, over in Canada, and the first installment of the description of the new invention of Mr. D. A. Jones is at hand. It consists of a side-opening super and crate, and a system of management arranged to agree with such fixtures. Some adverse criticisms have been offered, and some predictions that it will revolutionize fixtures for obtaining comb honey. Let a good trial be made, and the result will be welcomed—which ever way it may point ; for we need all the good things, and can afford to throw all the bad away.

Plaster-of-Paris Molds.—Mr. P. Breman, of Lakeside, Ont., asks us to explain in the BEE JOURNAL how to mix plaster of Paris for making foundation molds.

It must be mixed to about the consistency of thin paste, and then used immediately—for it will "set" very quickly. Have every thing ready for its use before mixing it. Then let it stand for several hours to harden.

Care of Empty Combs.—A correspondent in Kentucky, writes as follows :

Please state in the BEE JOURNAL how to keep the moth out of frames of empty comb, and oblige a bee-keeper.

Strong colonies of Italian bees are the most effectual method of preventing the ravages of the moth. It is next to impossible to keep the moth out of hives, when such pests are prevalent.

In order to preserve empty combs, it is necessary to fumigate them repeatedly with sulphur, to kill the hatching worms. Close up the room containing the combs tightly, and burn the sulphur in it, after you have gone outside and shut the door.

Sawdust for Pollen.—Mr. Frank Wilkins, Pelham, N. H., has sent us some of the grey-birch sawdust which he mentions on page 203, to be used instead of rye-meal, upon which the bees will work in the spring for pollen. We will report later as to its bee-use, meanwhile thanking Mr. Wilkins for his trouble in sending it.

To Stimulate in Spring, some apiarists give the bees, as early as they will work on it, chopped oats, placed in trays.

GLEANS OF NEWS.

Governmental Statistics.

The chairman of the committee on statistics, appointed by the Chicago Convention of bee-keepers, Prof. Cook, has sent this to the U.S. Ltatistician, to be sent out as a

CIRCULAR TO REPORTERS.

The general condition of the bee-industry is of great importance to bee-keepers. Will you please fill out this blank for your county, district or State, at once, according to your best judgment, and return immediately to

COMMISSIONER OF AGRICULTURE,
WASHINGTON, D. C.

Name.....
Post-Office.....
County.....
State.....
This report is for.....(County.
or for.....State.

The Circular for April contains these questions:

1. What per cent. of the bees in your..... ..... have survived the past winter?
2. By what method were the bees generally wintered?
3. What are the present prospects for next season's crop?

The Circular for July contains these questions:

1. What per cent. of an average crop of honey was secured in May, June and July?
2. From what sources was it gathered?

The Circular for September contains these questions:

1. What per cent. of an average fall-crop of honey is there this year?
2. From what sources?
3. What per cent. of an average crop is the product for this year?

Moving Bees a Long Distance.—F. C. Erkel, Lexington, Minn., on April 3, 1888, asks the following questions:

I should like to know when is the best time to move bees. I have 38 colonies that I wish to move about 100 miles. Would it be best to move them soon after taken out of the cellar, or later on in the season? Also, which would be the better way to move them, by wagon the whole distance, or seven miles by wagon to the station, and then fifty miles by freight, when they would have to be transferred, and then fifty miles more by freight?

Move the bees as soon as possible after taking the bees out of the cellar, while the hives are not encumbered with much honey to break down, etc. We should prefer to move them the whole distance by wagons, seeing they must be taken seven miles in that way, for when they are once properly prepared and placed on wagons, much of the work is accomplished. The changing cars on two railroads, as well as changing from the wagon would be far more dangerous to the bees than to go all the distance by wagons. Secure the frames, and load on the wagons so that the frames cross the road-bed, and let them be carefully driven, especially over rough parts of the road.

The Reduction of Postage on seeds, plants, bulbs, etc., is now before Congress. In Canada the postage on such is 4 cents per pound; in England it is 6 cents; and in the United States it is 16 cents per pound! a manifest injustice. Let the law be amended at once.

That New Invention mentioned on page 148, concerning "comb" building, has been *revealed*. It is merely comb foundation "made on glass, wood, tin, card-board or other material, with the impression of the cells in wax on one side, the other being left smooth." The intention is to have the cells of double length, the mid-rib or foundation being at one side.

A great "splurge" was made at its announcement. There was a great ringing of the bell to announce the advent of the locomotive, but, alas, the coming of the engine creates no enthusiasm. It is almost a useless affair, if not absolutely so. Here in America, at least, we have no use for such an invention! We can secure longer cells by simply spreading the combs, but even that is undesirable, because of the slower ripening of the honey, and the consequent hindrance to the bees.

The method proposed to make the invention known made us look with suspicion upon it, as stated on page 148.

Some periodicals have been injudicious enough to announce it as a "new artificial comb"—which will to a few give some color to that scientific pleasantry which we have been fighting for years. Call things by their right names! This is the only safe thing to do.

Spring Feeding, Supers, etc.—Mr. W. C. Peck, Larrabee, Wis., asks the following questions:

1. Which is preferable for the 8-frame Langstroth hive, a super made of 1-inch lumber to hold 24 sections, or one made of thin lumber and holding 27 sections?
2. Will brace combs be between the brood-frames and the sections, if the bee-space is reduced to ¼ inch, and the tops of the brood-frames scraped clean?
3. Is the sap of the sugar maple injurious to bees? or will it serve to stimulate them to breed in early spring?

1. Either would do, but we should prefer the thin lumber and 27 sections, other things being equal.
2. The space not being large enough for passage-ways, the bees will be likely to put brace-combs there.
3. Maple syrup will answer for stimulating the bees in the spring, when they can fly freely.

The Honey-Trade.—Mr. Geo. Henderson, of London, England, has sent us the following item:

The total value and amount of honey imported into Great Britain in the year 1886, was £25,610—or 21,533 cwt. The value and amount from the United States was £5,830—or 4,569 cwt. This is considerable less than that given in the AMERICAN BEE JOURNAL for March 7, but it is authoritative.

Loss in Winter.—Mr. E. D. Keeney, Arcade, N. Y., reports on April 4 that he put 301 colonies into cellars last November, and on April 4 took out 295 colonies in fine condition—being a loss of less than 2 per cent. That is an excellent showing.

Lend a Helping Hand.—Mrs. N. Stanley, Adrian, Minn., on March 24, 1888, writes:

I send one dollar to aid the bee-keepers' "defense fund," and let me say to those bee-keepers who weekly read the BEE JOURNAL, that aside from the principle, "Do unto others as ye would that they should do unto you," is it not our duty to cheer and aid a sinking brother? Let us rally around our standard, and do battle for our rights and a just cause. Could I send an arrow of remorse into the heart of that Mayor of Arkadelphia, you may be sure it would be quickly sent. I am only a bee-keeper in a small way, and I do not expect ever to need the aid of the Union, nevertheless I cannot hear appeals for help, in vain.

Our bees the past season did better than some have reported. We obtained a surplus of 30 pounds of comb honey per colony, besides one large swarm and an abundance of stores for winter. The bees are wintering nicely in the cellar, being very quiet, with few dead bees.

I think so much of the AMERICAN BEE JOURNAL that I am binding it, and very attractive and useful volumes they make for convenient reference.

Mr. E. Liston, of Virgil City, Mo., has this to say about the Arkadelphia case:

Brothers, awake! Send in your dollar and join the Union. We that are being carried along on "flowery beds of ease," do not know how soon some one filled with malice and prejudice will put us in trouble. Even if we pass through without trouble, for the honor of our pursuit and our brotherhood, we should pay our tittle mites to help Brother Clark to obtain his rights as an American citizen. Your dollar is a mere pittance to what Mr. Clark is suffering. And to the Manager of the "Union" I would say, run it through all the courts—give Mr. Clark justice as an American citizen, and assess the fraternity for the necessary funds. Brother bee-keepers, think of this case, and be liberal.

Mr. C. Weeks, a queen-breeder of Tennessee, offers to present a colony of pure Italian bees to the Bee-Keepers' Union, to be awarded to the person who first sends $4 to four membership fees to help support the Union. The bees are in a Simplicity hive. Who will be first to send the four members?

New Catalogues for 1888 are on our desk, from the following persons:

A. F. Bright, Mazeppa, Minn.—16 pages—Bees and Poultry.

Geo. A. Wright, Glenwood, Pa.—1 page—Poultry and Bees.

Mrs. J. N. Heater, Columbus, Nebr.—16 pages—Bees and Apiarian Supplies.

Gould's Manufacturing Co., Seneca Falls, N. Y.—16 pages—Spraying Pump.

J. M. Hambaugh, Spring, Ills.—16 pages—Apiarian Supplies.

W. P. Davis, Goodman, N. C.—6 pages—Bees, Queens and Apiarian Supplies.

F. M. Atwood, Rileyville, Ills.—7 pages—Apiarian Supplies.

C. F. Muth & Son, Cincinnati, O.—34 pages—Honey and Bee-Keepers' Supplies.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

APRIL SHOWERS.

The warm, sweet rain is falling
From April's changeful skies;
The green leaves on the Willows
Laugh out their glad surprise.
The Violet wakes from dreaming
Beneath the dead year's leaves,
Each blossom adds its brightness
To webs that spring time weaves.

The buds on Oak and Elm tree
Seem growing as we look;
Spring legends are repeated
By the babbling little brook.
The air is full of sweetness,
The skies are brighter blue,
The rain that falls in April
Makes all the old world new.

E. E. REXFORD, *in Vick's Magazine.*

Alfalfa as a Honey-Plant.

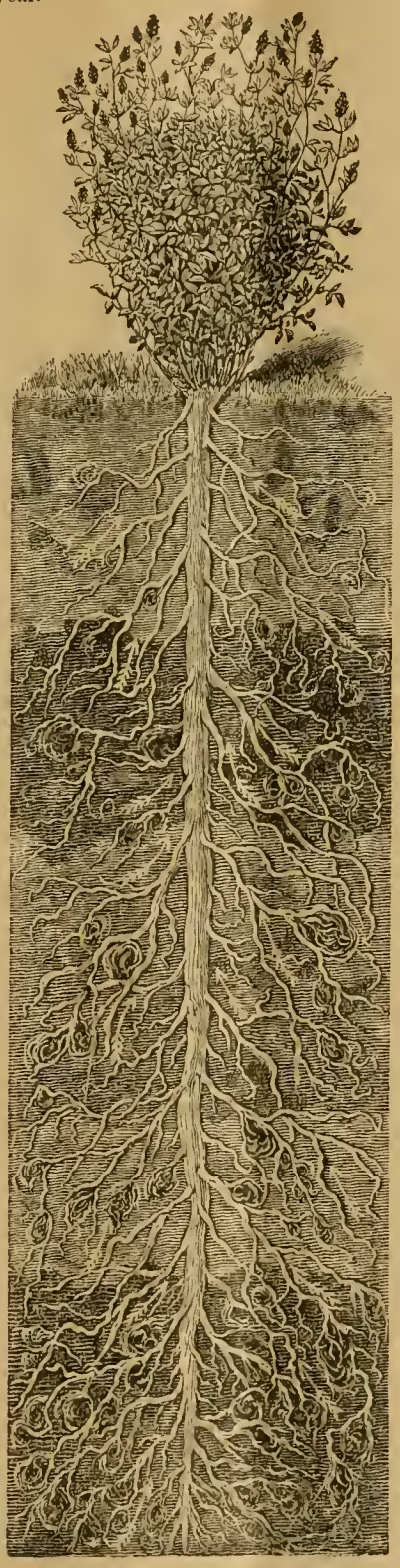
On page 8, Mr. William Willis tells his experience with alfalfa as a honey-plant, in California. On page 68, we gave more particulars concerning this excellent honey producer. A. H. M., a correspondent in Moroni, Utah, gives these particulars concerning its cultivation:

Lucerne will grow on any land that will produce wheat, corn or potatoes, and will thrive on many lands that none of these will grow on, especially very light sand or gravel, though it does well on clay. But it will not grow on any land that the water stands within one foot of the surface, and there is no use in sowing it in an alkali strong enough to keep wheat from growing. Though particular about wet land, it will stand any amount of wet in the summer, as long as there is plenty of drainage. It will also stand all of the water in the winter that may fall in the shape of rain, or snow that may melt.

It is a very quick grower, and will mature the first crop in about two months from the time that growth commences. The second crop will mature in about six weeks from cutting, and the third is about five weeks from cutting of the second. The second crop is the heaviest, but the first is a little the best feed, as it grows a little longer than the others. It will yield about on an average of six tons per acre, and I have known it to produce double that quantity. It is a perennial of the clover tribe, but will outyield it two to one, makes just as good feed, and has a great advantage over the clover, for it never falls down, but stands up straight.

SOWING.—The best method is to sow broadcast about 15 pounds per acre, where the land is in good condition, but on very weedy land or clear gravel or sand that is very poor, put about 3 pounds more. You cannot get any crop from it the first year, but do not get discouraged if the plants are on an average of 10 inches apart, little, slim single stems about 4 or 6 inches high. Your prospect is good that you will get 4 tons per acre next year, and the next it will be as good as ever it will, and stand that way for ten years. It is best to sow with grain. Oats are the best; thus you will lose no time, but can have a crop from your land every year. In fact it does better to have it shaded when young. Sow at the same time that you do spring grain.

CULTIVATION.—Where there is plenty of rain, there is no cultivation needed, for it would be unwise to manure it, as it thrives fully as well on washed sand as it will on the best garden-spot, but in a few years it will make clear sand a rich land, owing to the decay of the root. The roots will sink themselves for a distance of 10 to 20 feet straight down. They are about 1½ inches in diameter, and fully one-half of that root decays every year from the outside, and keeps growing larger from the centre every year.



It should be cut when in full bloom. A little old is better than too young; when the bloom is ready to fall off is not too late. Do not cut too much at once, for if you allow a rain to come on your hay after it is cut, it will not be worth more than one-half for feed, and will be entirely worthless for market. Heavy dews are not good either. Rake into windrows, if cut with a mowing machine, and let dry until it begins to let the leaves fall when handled roughly, then pick it up and lay it in piles, just one fork-full in a pile, to cure. Do not roll it together, or it will not load easily, then you will have to pull it to pieces, thus losing one-half of the leaves. By following my directions you can put each on perfectly clean at one fork-full, and not waste time nor any of the leaves. But let me warn you against condemning it as a worthless lot of sticks, until you try your horses and cows and see them clean up the sticks before they do the leaves. There are not many animals that take to it when dry, without having it in their manger for a few days with other hay; but in a few days you will see the grass hay left, while the lucerne is cleaned up. A ton of lucerne will not go quite as far as a ton of timothy. Do not let hungry cattle get on it while green, especially when wet, for it will bloat them, which is apt to result in death. If you wish to pasture it, first feed your stock all that they can and will eat, and then turn them on the green lucerne, and no harm will come to them. It is the best thing to renew old, worn-out land that I ever saw, and there is not a weed or anything else in this country that can stand before it.

We would add that lucerne or alfalfa (*Medicago sativa*) was introduced into the Pacific States from Chili, many years ago. It resists the driest weather, and it is said that when every blade of grass droops for want of moisture, it holds up fresh and green.

On page 184 Mr. Wm. Muth-Rasmussen also gives his experience with alfalfa as a honey-plant. He obtained 5,000 pounds of comb honey from it, which he sold at a satisfactory price.

Alfalfa will be a prominent crop in all places where the winters are not too severe. The power to withstand great heat and dryness comes from the long, searching tap-roots, which are sent deeply down into the soil and find moisture which is inaccessible to other less energetic vegetation.

Canada.—At a meeting of the Board of Directors of the Ontario Bee-Keepers' Association, at Toronto, on March 28, 1888, the resignation of E. Schulz, of Kilworthy, was accepted, and Mr. McPherson elected to fill the vacancy.

The resolutions adopted were the following:

That all duly qualified local societies applying for affiliation on or before Aug. 1, 1888, receive an appropriation of $35.

That each member of the association for 1888, receive an Italian queen, supposed to be purely mated and laying, for the purpose of introducing new blood into their colonies, and that she be received on or before July 1.

That the President, Secretary, and Mr. McKnight be a committee for the purpose of arranging for the supply of queens to the members, and that the same be of Canadian production.

That the Ontario Bee-Keepers' Association offer a special prize of $25 for the most tasty and attractive display of honey at the Industrial Exhibition at Toronto; the display to be the production of the exhibitor, provided the Industrial Exhibit Association supplement it so as to make the prize fifty dollars.

QUERIES & REPLIES.

NUMBER AND POSITION OF BROOD-FRAMES.

Written for the American Bee Journal

Query 531.—1. Are 12 frames a 10½x10½ inches, inside measure, sufficient for the brood-chamber? 2. For wintering on the summer stands, building up weak colonies in the spring, etc., would it not be preferable to have the frames the short way of the hive, say a hive the shape of the Langstroth?—Indiana.

1. No. 2. No.—MRS. L. HARRISON.

1. Yes. 2. Not for me.—H. D. CUTTING.

1. Yes. 2. No.—G. L. TINKER.

1. I think so. 2. No.—R. L. TAYLOR.

1. Yes, probably. 2. I do not know. —C. C. MILLER.

1. Yes. I prefer the regular Langstroth frame.—C. H. DIBBERN.

1. Yes, amply so. 2. It does not make any difference in this climate.—P. L. VIALLON.

1. They are. 2. I do not think that it would matter much with your frames.—J. P. H. BROWN.

1. We prefer larger frames. 2. Not unless you can enlarge them afterwards.—DADANT & SON.

1. It would do very well. 2. Theory says yes; but I never have tried it.—A. B. MASON.

1. Yes. I use only 9 such frames, and consider them ample. 2. Such frames as the above must run the short way of the hive, for they can run no other way where 12 frames to the hive are used.—G. M. DOOLITTLE.

1. Yes. 2. No. The size and shape (9½ deep, and 17⅝ or 17⅞ long) of the Langstroth frame, is probably the best known.—J. M. SHUCK.

1. Yes, I would never use more than ten such frames for summer, and seven would be better for winter. I do not like that shape of frame at all. 2. I should prefer the frames of that depth to run the short way of the hive. The depth is objectionable.—JAMES HEDDON.

1. Yes. 2. I use 11 frames 11¼x9½ inches, inside measure, and of course the frames run the short way of the hive. The entrance is in the side of the hive, so that the frames run from front to rear.—M. MAHIN.

1. Yes, but I prefer 10 Langstroth frames, which is about equal in comb to 12 such frames as you mention. 2. I have some experience in the different ways of adjusting frames, and I think that you will gain nothing by placing the frames crosswise of the entrance.—G. W. DEMAREE.

1. Yes. 2. Having tried the short frame and the Langstroth, I have never been able to see any difference—wintering always in the cellar, however. Successful bee-keeping depends more upon the *man*, than on the hive or frame he uses.—EUGENE SECOR.

1. It might be, but the best results I have ever obtained were from hives with a brood-chamber capacity of 3,600 cubic inches. Location might make a difference. 2. It is generally conceded that the combs should hang straight with the entrance.—J. M. HAMBAUGH.

1. Yes, I think that they are about right, although I prefer the Langstroth frame, and 10 to a hive. 2. Not by any means, in my own experience. The Langstroth frame has stood the test of years, and never has been found wanting yet. Why not, then, let well enough alone?—J. E. POND.

1. I use just such a hive, 11¼x11¼ inches, and I like it much. I think that 10½ inches would be about the same—no essential difference. For several reasons I would say, yes. If all used such hives, I should prefer them to the Langstroth. As so many more use the Langstroth style, I think that is most desirable. This is a case where it pays to be with the majority. —A. J. COOK.

1. It is probable that 12 frames of that size would suffice for the breeding apartment, but I much prefer 10 Langstroth frames. 2. By no means; the entrance to the hive should be at the ends of the frames.—THE EDITOR.

MANAGEMENT TO PREVENT INCREASE.

Written for the American Bee Journal

Query 532.—Having as many bees as I care to handle, and working for comb honey, when the bees do swarm, ought I to take the queen away and return the bees, or cut out the queen-cells and return the old queen with the bees?—Ontario.

See answer to Query 527.—P. L. VIALLON.

See Query 527, for an answer.—A. B. MASON.

Neither way would be good practice. —MRS. L. HARRISON.

You will find neither practice practical, as a rule.—JAMES HEDDON.

See Query 527, with answer.—J. M. HAMBAUGH.

It depends upon the age of the queen. If too old, kill her.—C. C. MILLER.

I think that the first plan will work, if after five days all the queen-cells but one are destroyed. The latter plan would not do at all—it would lead to inactivity, and to more swarming.—R. L. TAYLOR.

There are objections to both of your methods, but probably the least to the plan of cutting out all the queen-cells. —J. P. H. BROWN.

I would return the old queen with the bees; cut out all the queen-cells first.—H. D. CUTTING.

Your method would not always succeed. Using large hives will make less swarming.—DADANT & SON.

See answer to Query 527. The swarming fever should be subdued to get the best results.—G. L. TINKER.

I would prefer to hive the swarms and double up colonies in the fall; or, better still, double down one-half in the spring, so as to make all strong, and then increase to the original number by swarming when the season arrives.—G. M. DOOLITTLE.

Let them swarm, as Mr. Heddon does, and then reduce in the fall, will, I think, pay the best. Else remove the old queen and cut out all the cells but one; otherwise they will usually keep on attempting to swarm.—A. J. COOK.

Return the bees, taking away the old queen, and be *sure* to destroy all queen-cells but one. With plenty of room and ventilation, you will have no more trouble. But look out for too much honey in the brood-combs.—M. MAHIN.

This is a mooted question. I prefer to use the so-called artificial method of swarming, and thus control the matter of increase. I should prefer cutting out queen-cells and returning the queen, but ample room for surplus must be given, else a great risk is run of having the queen killed.—J. E. POND.

How to prevent increase when working for comb honey is one of the unsolved problems in bee-culture. I do not know of any one who can certainly control swarming. Many methods are used; sometimes one will give satisfaction for a season, and then the charm is broken. Most of the rules are subject to exceptions. I should not practice either of the methods mentioned in the query. I should not expect to control swarming by either of them.—EUGENE SECOR.

This will not work. If the old queen is killed and the bees returned, they will swarm when the first queen hatches out. If the queen-cells are all cut out, and the swarm is returned with the old queen, they will at once rear other queen-cells, and with a large apiary on your hands, you would soon be in a "peck of trouble."—C. H. DIBBERN.

Neither way you suggest will prevent swarming. If you should remove the queen and return the bees, the bees would swarm as soon as the

young queens hatched; and if you should cut out the queen-cells and return the queen with the bees, the bees would start queen-cells immediately. You can prevent increase by taking the queens away from the swarm, and return the swarm, and six or seven days after the swarm issued, destroy all the cells but one. Then again, on the tenth day go over the combs again, and destroy any cells that may have been started before all the larvæ was sealed, so as to leave but one young queen. This plan will work, but you will get tired of it.—G. W. DEMAREE.

Hive the swarm on the old stand, and give it the supers from the old hive, so that the work of the colony may not cease. As the bees emerge from the parent colony, shake them in front of the swarm, or treat the parent colony in any way that your judgment may dictate. Do not be in haste to destroy queens and queen-cells. Care for them, test them, and preserve the most promising.—J. M. SHUCK.

Both of the methods you mention are objectionable. How to prevent increase invariably and successfully is one of the problems as yet unsolved. —THE EDITOR.

CONVENTION NOTICES.

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. FULLER, *Sec.*

☞ The Eastern Indiana Bee-Keepers' Association will hold its spring meeting on Saturday, April 21, 1888, at Richmond, Ind. M. G. REYNOLDS, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec.*

☞ The Darke County Union Bee-Keepers' Association will hold its annual meeting on Friday, April 27, 1888, at Ansonia, O. J. A. ROE, *Sec.*

☞ The Union Bee-Keepers' Association of Western Iowa, will hold their annual meeting at Menlo, Iowa, on Saturday, April 14, 1888, at 10 a.m.
H. D. LENOCKER, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited.
W. H. BEACH, *Sec.*

☞ The Marshall County Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Saturday, April 21, 1888, at 10:30 a.m. The subject for discussion is, "Spring and summer management of bees." A general invitation is extended. A good meeting is expected. J. W. SANDERS, *Sec.*

☞ The 18th semi-annual session of the Central Michigan Bee-Keepers' Association will be held in the Pioneer Room at the State Capitol, on Saturday, April 21, 1888. Prof. A. J. Cook will give an address. A cordial invitation is extended to all, as it will be a very interesting meeting. W. A. BARNES, *Sec.*

☞ The annual meeting of the Western Bee-Keepers' Association will be held at Independence, Mo., at the Court House, on April 25, 1888. It will be carried on as a sociable, friendly gathering. Let all bring their baskets and have a good time.
PETER OTTO, *Sec.*

☞ The next meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on May 5, 1888. The following subjects are to be considered: Bee-keeping for pleasure and profit—Spring work with bees—Is it advisable to use foundation? If so, to what extent?—How can we make our Association of the most practical value to its members. All are cordially invited to come.
H. M. SEELEY, *Sec.*

☞ The tenth annual meeting of the Texas State Bee-Keepers' Association will be held at the bee-yards of Vice-President W. R. Graham, in Greenville, Hunt Co., Texas, on May 2 and 3, 1888. A leading feature of the convention will be criticisms upon subjects that have been mentioned in the bee-papers. A good time is expected, so let all Texas and Arkansas bee-keepers attend. A cordial invitation is extended to all bee-keepers wheresoever dispersed. Remember, no hotel bills to pay at our conventions! B. F. CARROLL, *Sec.*

CORRESPONDENCE.

LARGE HIVES.

The Small Hives vs. the Large Hives.

Written for the American Bee Journal
BY CHAS. DADANT.

The article of Mr. W. J. Davis, on page 170, on large hives, reminds me of the objections raised, 25 years ago, by the bee-keepers with box-hives, who condemned the frames on account of the impossibility of taking them out after the building of combs. The combs were crooked, passing from a frame to another, and therefore such hives would never, never, be used by the majority of bee-keepers.

Of course such bad results were not to be imputed to bees, but to their owners, who had neglected to watch the building of comb, and to help the bees; while a few minutes per colony would have obtained the desired result.

Mr. Davis is guilty of about a similar neglect, for he writes: "During March and April I find that colonies build up more rapidly in the smaller hive, owing to the fact of greater warmth, or the better economizing of the heat of the cluster." Then he did not take the trouble of providing his large hives with division-boards, which would have enabled him to reduce the number of combs according to the size of the cluster of bees. We are not in a linden country; like Mr. Davis, our main crop is from clover. Here white clover begins to bloom about June 1. Yet we find less difficulty to get our bees ready in time, with our large hives and partition boards, than with small hives and no partitions.

A little thinking will explain the above. Suppose that, on March 1, we have a colony so reduced in numbers that it is unable to warm, sufficiently for breeding, more than 500 cubic inches. If we reduce the space inside of our large hive three combs, the upper surface of the room inhabited by the bees will be reduced to about 80 square inches; and the bees will be enabled to warm about 6 inches in depth, since the warmth always rises.

If, on the contrary, we have a 10-frame Langstroth hive, or even a 10-frame division of the Heddon hive, the surface of the whole will be about 250 square inches, and our bees will be unable to warm more than 2 inches of depth; 4 inches less than in our large hive. Then while the small cluster in our large hive will be able to keep the brood warm, the same number of bees in the whole small hive will exhaust itself to prevent its brood from being chilled, and the laying will be altogether stopped.

Another curious objection of Mr. Davis is, that a queen can be exhausted by laying too much. During the spring, if bees find something to harvest, the queen is abundantly fed, and she lays more or less, not according to her liking—not according to the number of cells—but according to the quantity of food offered her by the bees. When the queen does not find cells to lay in, her eggs are dropped and lost. Besides, we can show by our experience, that although our queens can lay from 3,500 to 4,000 eggs per day, they are as long lived as any.

In our home apiary we keep from 80 to 100 colonies, all in very large hives. If our queens were exhausted by their excessive laying, they would not last, on an average, more than two years. Then the whole number would be replaced at the rate of about 3 or 4 queens every month. Three queens every month, from Nov. 1 to March 1, would give a loss of 12 queens, whose colonies would be queenless or broodless in March. We are far from losing half this number, on the average. Then our queens are not exhausted by their laying.

We can prove the same during the time of harvest; as we prevent swarming, the number of our swarms shows how many colonies replace their queens, since in such cases they swarm. As our 80 or 100 colonies do not give more than three swarms, on an average, during the honey crop, we know that our queens are as long-lived as those that inhabit small hives.

As to wintering bees in large hives, we know that *according to the laws of nature*, a large aggregation of animals, horses or sheep, and even bees, will be more comfortable in winter, than a small aggregation. If I needed to prove it, I would open to page 83, where Mr. S. P. Stone asks why a colony in a box-hive lived and prospered for 27 years. The answer is found in the size of the box; 16x16x22 inches, or 5,632 cubic inches.

On page 107, Mr. Heddon says that a colony in a hive as large as 10 Langstroth hives combined, had wintered safely for seven years, while many others had died by its side.

Both of the above colonies and hives were in Michigan, in the "bee-diarrheadom," as Mr. Heddon terms that State. Why did they winter better, if not on account of the size of the hives? I could multiply these examples, even without quoting our own regular success in wintering bees in large hives.

Hamilton, Ills.

HIVING SWARMS.

How to Secure the Swarms that Alight High.

Written for the American Bee Journal

BY C. W. HELLEMS.

I have kept bees about all my life time, on a small scale, just for my own use and amusement; and for the last few years I have tried to combine pleasure and profit on a large scale, but living in the city I have not ground enough to accommodate more than about 70 colonies, and then they are rather close together.

Until last year they had proved to be quite profitable, but then the crop was not more than one-fourth of that of former years. I have been in the habit of going up trees, some times as high as 40 feet, to take a swarm of bees; but two years ago last season I had a fall of 21 feet. The ladder slipped off of the limb that it was resting upon, and down I went, ladder, bees and all, to the ground. I was bruised, and pretty well shaken up, but no bones broken, but I secured the bees after a little while.

I then thought that I must use some other means of catching runaway swarms. I was getting too old a man to climb trees, being then in my 78th year, and my weight was 210 pounds.

I got a long, light pole, and fastened a small tackle block at the top of it, with a cord to run through the block. I made a small hiving-box that would hold 3 or 4 racks with combs in them, that the honey had been extracted from. When the bees had settled on a limb, I would put the pole up against that limb, and run the box up, either under or over the bees, giving them quite a jar, and in five or ten minutes they would all gather in the box on the combs. I let them down by the cord, and took them to the hive already prepared for them. This worked very well.

Last season I thought of and tried another plan. I planted a pole in about the centre of the bee-yard, about 50 feet high, with a tackle block at the top of it, and a cord to reach to the ground; when the bees began to come out to swarm, I run the hiving-box up as high as most of the bees were flying, kept the box moving slowly up and down a few feet, and often by the time the bees were half out of the hive, they would begin to gather in the hiving box. As soon as they were settled, I lowered them carefully, and took the box to the hive already prepared for them, and either shook off the bees in front of the hive, or lifted the frames and bees all out and put them in the hive, when the job was done.

I have often, in preventing bees from leaving the hive, taken a comb from the hive they came from, with brood in it, and put it into the hive of the new colony. I have never had them leave the hive since I adopted that plan.

This above-described pole-arrangement is new to me, and whether any one ever used it before, I do not know; but so far it has worked well. The hiving-box is made out of ⅞-inch stuff, very light, and just long enough to hang the frames in lengthwise, the same as in the hive, and wide enough to hold 4 or more frames. I found that combs lately extracted are the best.

If the apiary is large, I think that by having poles placed in different parts of the yard would save much trouble. When I leave the yard in swarming time, I always run the hiving-box up, and leave it there until I return. I then made another tight box that would hold the hiving-box, and I keep the hiving-box in it, with the combs always ready for use, but covered up so that bees in the yard cannot get at them on the ground, at the bottom of the pole, ready for use.

Bees did very poorly the past season in this locality, many of the colonies not gathering enough to winter on. I have 40 colonies on the summer stands, packed in chaff hives, and so far they are doing well.

St. Catherines, Ont.

GOOD QUEENS.

Are the "Queens Not Reared by Natural Swarming Inferior?"

Written for the American Bee Journal

BY O. O. POPPLETON.

On page 135, Mr. Doolittle has an article on the above subject, the most of which meets my hearty approval, but not all, and a further discussion of so important a branch of bee-keeping can do no harm.

All that part of Mr. Doolittle's article which condemns the cheap, unscientific methods of queen-rearing, meets my more than hearty approval, and the more that such influential writers on bee-culture as he is, will hammer away on that line, the better it will be for the interests of that pursuit; but readers are always quick to detect an over-statement of facts on which opinions and advice are founded, and any such over-statement always lessens the effects of such good advice.

The whole question simply is, whether queens reared by the best artificial methods known, are equal to those properly reared under the swarming impulse; and neither Mr. Demaree's alleged mistake (I have none of the back numbers of the AMERICAN BEE JOURNAL here in Cuba with me, so I cannot examine the article referred to), nor Mr. Doolittle's mistake of comparing naturally-reared queens with poorly-reared artificial ones, touches the real point under discussion at all. Plausible and seemingly correct theories by scores, (I might almost say hundreds), have been given why such and such methods of rearing queens are the best, but the real truth of these theories must be tested by the many wide-awake, practical bee-keepers of our country who are rearing and handling queens by the hundreds, and only by their united experience for a series of years can the real facts be known.

Like many others who have made honey-producing their special business, I long ago learned that good queens were an absolutely essential element of success in that line, and to aid me in learning how to secure such queens, for several years previous to being compelled to leave Iowa on account of failing health, I kept an account of the method by which each queen in my apiary was reared. The four or five years that I kept this record before leaving, was too short and incomplete to be a definite guide, but it gave me some ideas.

It caused me to entirely abandon, even for experimental purposes, all careless methods of rearing queens, such as having them reared in nuclei, in weak colonies, or, in fact, in any colonies not in a thriving, vigorous and normal condition. The record was kept long enough to thoroughly satisfy me on this point. Although not fully satisfied of its correctness, I was coming to the conclusion that queens reared by any method, would average better if reared during the swarming season of the year; and may not this account largely for the preference given by Mr. Doolittle and others to naturally-reared queens?

The method of taking an old queen away from a strong colony, and allowing cells to be built on any or all of the combs was not satisfactory as regards quality of queens or ease of manipulation. Giving such a colony of bees a single comb of selected brood on which to build cells, was better in both respects, but not equal in the latter to the Alley plan. The Jones plan of getting natural queens gave as good ones as any, but I did not succeed in doing the manipulating as easily as I wished. I shall try to test that method further while down here.

Natural swarming gave good queens, but at an expense of extra labor not justified by the result. I had so little natural swarming in my apiary that I

had to work certain colonies for that particular object to obtain what cells I needed. The number of bees left in the old hives had no effect, so far as I could see, on the quality of the queens, at least so far as those were concerned that were in sealed cells when the swarm was cast. I tested returning none, returning a part, and returning all of the old swarm. The Alley method, with some changes of details, had so many advantages that I very closely watched the quality of the queens, and while my record, as already said, had been kept only four or five years, and covered some 150 queens only, that had been reared by that method, and therefore not full enough to be at all conclusive, yet they strongly pointed to the conclusion that such queens were fully equal in every respect to natural queens. One thing was certainly proven, namely, that to obtain good queens by any method required intelligent, careful working of the method—no slipshod work or attention would succeed.

While the larger part of Mr. Doolittle's article—all of that relating to poorly-reared queens—cannot be too often repeated by such writers as he is, yet it has no bearing whatever on the question under discussion, as stated in the caption of his article, and the good effects of the article must inevitably be lessened by its being interwoven with what many others, as well as myself, believe to be an overstated idea of the superiority of properly-reared natural queens, over carefully-reared artificial ones.

Mr. Doolitittle makes so few mistakes that it is almost a pleasure when one does get a chance to have a good-natured discussion with him on some difference of opinion.

And now, Mr. Editor, I want you to take into consideration what I have said about an overstatement lessening the force of any argument, and apply it to the fight you have been making for several years past on the "untested queen traffic." Fight the "poor queen traffic" all you can, but always keep in mind the fact that ten dollars worth of the rightly-reared, young, untested queens are worth more to such honey-producers as I am, than is the same money's value of older tested queens.

The thing for all of us to fight is, the abuses of the traffic, and so far as my knowledge goes, those have been fully as great in the high-priced traffic as in the lower priced.

Havana, Cuba.

[Our remarks following the article of Mr. Doolittle, on page 136, were these:

Bro. Doolittle is right. We have repeatedly protested against the cheap-queen traffic. What we need is better queens, not lower prices. One *good* queen is worth a dozen poor and correspondingly *cheap* ones. This "cheap-by-cheap" business is the bane of modern apiculture, and should be "frowned down" by all who desire its prosperity.

It will be seen that we did not use the words "untested queen traffic." We want *quality*, not quantity; and our ideas in this respect are fully indorsed by both Messrs. Doolittle and Poppleton. For the past six years we have been fighting the "*poor* queen traffic," and shall continue to do so, because the interests of the pursuit demand it. In the first article we wrote on the subject in February, 1882, we used this argument against the purchasing of inferior queens for breeding purposes: "Who but a *lunatic* would think of buying a *cheap* Durham bull, full-blooded horse, or pig, for the purpose of breeding the best stock?" What we should be particular about is the quality, not the price. —Ed.]

STATISTICS.

Suggestions as to Gathering Statistics of Bee-Keeping.

Written for the American Bee Journal

BY B. T. DAVENPORT.

In regard to gathering statistics, I would say that I agree with several others who have expressed an opinion in regard to it, that it cannot be done through the assessors, for the reasons already given; but it can be done through the bee-keepers themselves, those of them who are interested enough in the pursuit to go to a little trouble in getting the required information.

The "assessor's plan" would work all right where bees are not taxed, as in this town, and might perhaps work as well as any other method where they are taxed. I think that a list of those producing honey to sell (the smaller ones can be omitted) can be obtained through the several town assessors; but then, how can we best get the statistics after having their names, is another problem.

If the town assessors could be furnished with a certain number of addressed postal cards, with the proper headings all on, to be filled out at such a time and mailed, and let them hand each apiarist one, it seems to me like —well, I wont say it is the *best*, nor a good plan, but offer it as one way that has presented itself to me. I shall be willing to do what little I can toward centralizing and making effective this huge undertaking.

I send $1.00 for the defense fund, and though I am quite heavily in debt, I should be willing to pay several times this amount, rather than to see Mr. Clark beaten, and obliged to either make a great sacrifice by moving his property out of "Sodom," or give up as legitimate and upright a calling as a person can engage in.

It is warmer to-day, and rainy. The snow is 18 inches deep yet. Bees are wintering well, I think.

Auroraville, Wis., March 26, 1888.

MARKETING HONEY.

The Commission Merchant and the Honey-Trade.

Read at the Ohio State Convention

BY CHAS. F. MUTH.

It is the object of bee-keepers' meetings to stimulate a friendly relation among bee-keepers and the friends of bee-keeping; to gather knowledge in the art of bee-keeping by a friendly exchange of ideas, and to advise as to the manner of disposing of our product to the best advantage.

Although millions of pounds of honey are produced annually, and in every part of the world, and thousands of people are interested in the pursuit, and hundreds of bee-papers and agricultural periodicals are spreading knowledge and enlightenment on the subject in every land and in every language, yet the public are still poorly posted as to the many beneficent qualities of honey. Honey is comparatively little known yet, even to the great majority of our nearest neighbors.

A great deal of this unfortunate ignorance is due to our selfishness. Not only do our Canadian brethren represent their own linden honey as far superior to our American basswood, but our American brethren also will mislead the consumer when his own interest conflicts with that of a rival bee-keeper.

Our great anxiety to change the name of "machine-extracted" honey, for fear that consumers should translate a very proper name into an absurdity, such as "machine-made," or as "manufactured" honey, shows a weak spot indeed. Our own knowledge that the honey is pure, and was extracted from the comb by a machine, needs only our positive assertion to be accepted by a sensible community. We may succeed slowly, but we shall succeed best, with a straight and fearless story. Let us, therefore, always call our honey by the proper name, and never be afraid to show it, granulated or liquid. Expose the adultera-

tor, but do not look at your neighbor's honey with a suspicious smile.

The price of honey has been very low for a number of years—too low to satisfy producer or dealer—the same as all other products of the farm. Wheat at 70 cents per bushel is to our farmers no more satisfactory than 10 cents a pound for the best comb honey is to our bee-keepers, or 6 cents a pound for the best extracted clover, or 3 cents a pound for dark honey. But, what could be done under the circumstances? Could our farmers say, "We will keep our wheat until it brings a dollar a bushel?" Could bee-keepers form a "trust," or make a so-called "corner," or elect a commission to stipulate the price at which honey should be sold? It takes a younger man than I am to indulge in such impractical ideas.

If a number of our sanguine bee-keepers could have only a part of our experience, they would know that comb honey sells fast when cheap, but that it is almost impossible to dispose of a large lot if an advance of only a few cents per pound is added. They should not confound their own small home trade (even if their crop was 5,000 pounds or more) with the trade of dealers in large cities. They should know that the country is not saved, if only *they* have disposed of their crop at a good price.

There are two large dealers, one of them in New York, who, under the impulse of a "short crop," bought comb honey which they now offer at 2 cents per pound below cost. Such is not healthy business, and it will come back to the bee-keeper another season. Sanguine bee-keepers will be the cause if we have an over-production, a honey famine, and again an over-production all in the course of twelve months. This is within the range of possibilities in our country, where we occasionally slide from one extreme to another.

Comb honey will remain a luxury. It will sell fast when cheap enough, and though a good business can be done in it for the bee-keeper and dealer, its production will be only of secondary consideration as compared with that of extracted honey. Since manufacturers make use of extracted honey, it bids fair to become a staple article; nothing will hinder it from becoming such, unless the prices put on will place it beyond the reach of manufacturers. Its prices will be controlled more or less by the prices of sugar syrup, which cannot be otherwise. Let us make due note of it!

The wish to obtain the highest market prices is the most natural with producers, and nobody is more deserving of that privilege than they are. Manufacturers know, from their time of labor, which is worth a certain amount per day, and their cash outlay, how to determine the price of their goods. Farmers, gardeners, bee-keepers, and others, however, labor for uncounted hours; and when their product is marketed, they have to accept the prices that they can get. They determine nothing.

When times are flush, and demand is good, good prices are realized, and the reverse is the case when times are dull. Is it a wonder that a sort of anarchistic feeling creeps over the producers? Our condition should be bettered. There is no doubt about it. But how shall we proceed?

Farmers sell their wheat to their neighboring mills, to dealers (middlemen), or they ship it to the city. Whoever pays the best price is the buyer. Gardeners, bringing their produce to the city, sell it in the market, as a general rule; but if they fail to dispose of it, they leave it with shippers (middlemen again) to dispose of it for them. These shippers have a custom among hotels and boarding-houses; other dealers ship to other places, and make a living in their own manner, benefiting themselves and others. Without these middlemen our gardeners would labor under great disadvantages. Our markets would be poor shows without the "huckster."

The same proportion holds good with bee-keepers. Honey-dealers are not only ornamental when occasion offers—for instance at fairs, exhibitions, etc.—but they are useful and indispensable to bee-keepers.

The dealer holds forth in a place handy to consumers and other dealers; makes himself acquainted with the wants of the public, and works up a demand, the like of which is just as impossible for the bee-keeper to do, as it is for the farmer to peddle out his own wheat among his neighbors. The dealer has facilities which the bee-keeper has not.

The truth of the proverb, "Every-one to his own trade," has been displayed to me lately so well that the matter deserves to be mentioned in this connection. A party had offered to us his services as salesman. Talking the matter over, he came to the conclusion that he would be a poor wholesaler, but that he would do better by buying the honey of us and selling it in his own manner, and on his own account. We had no objections.

He took a 50-pound can of honey on a passing street car, and went to the lower part of the city. Here he commenced to canvass, homeward, every house. His can became lighter as he went on, and when he reached our neighborhood it was empty.

He took another 50-pound can, and canvassed another street in a similar manner, etc. In less than two weeks our friend and brother bee-keeper had sold 800 pounds of honey, and cleared $67. He told me that he sold his own honey in the same manner when at home. How many producers in a hundred could do like he did? This time you see he was a middleman, useful to himself and others, and I had no reason to begrudge his large profits.

Middlemen are useful to all branches of industry, otherwise they would not be there. Large manufacturers would be lost without them. The prosperity of their business depends upon them, to a great extent; otherwise they would not pay them high salaries or large commissions.

It is a lack of experience, or a sign of narrow-heartedness in a number of bee-keepers, to consider the dealer a leech, instead of a benefactor—an opinion not shared, however, by the larger part of experienced bee-keepers.

In dull times, like the present, the bulk of the honey would remain unsold in the hands of bee-keepers, but for the unceasing industry of dealers, who take upon themselves responsibilities, invest their capital, and use their best endeavors for their own success and that of bee-keepers. Their interests are mutual, and their motto should be: "How can we best work and best agree?"

Cincinnati, Ohio.

SWARMING.

Do Bees Select a New Home Before Swarming?—Temperature and Ventilation.

Written for the American Bee Journal

BY J. E. HAND.

It seems that from Mr. G. W. Demaree's answer to Query 505, on page 23, that writer does not think that the bees select a new home before swarming, and no doubt there are many others of the same opinion. I used to think the same, until several instances came under my observation, that led me to conclude that bees do sometimes if not always, look for a home before swarming; though they are not always successful in their undertaking, I firmly believe that the majority of swarms know just where they are going before they leave the maternal roof.

I used to hunt bees during swarming time, and transfer them from the trees to the hives. On several different occasions, having found the tree which I supposed contained a large swarm, judging from the way the bees

were going in and out, upon immediately felling the tree, I was much surprised to find that there were only a handful of bees, which were engaged in cleaning out the hollow, preparatory to the swarm's taking possession. I soon found that it did not pay to cut bee-trees during swarming time, as not half of the trees cut at this time will be found to contain swarms.

Upon a certain occasion, one of my neighbors told me that a swarm of my bees had taken possession of the gable end of his house. Upon examination I found that the bees were going in and out through the siding, but from the inquisitive manner in which they were crawling into every hole they could find, I concluded that they were looking up a place to locate, and not wishing to lose a swarm of bees, I went home, when I found a large swarm clustered on a tree, and hived them, and they did not trouble the neighbor afterward.

One of my neighbors told me last winter that he secured 17 swarms in one season, by placing empty hives in trees. Now if bees do not look up a future home, there must have been a great many swarms of bees flying through the air, to have accidentally found so many of those empty hives.

Winter Temperature and Ventilation.

In Mr. Tyrrel's article, on page 25, he says that temperature and ventilation are the most important factors in the wintering problem, all else being of minor importance, as matters over which we have no control, such as honey-dew, improper food, etc. I think that Mr. Tyrrel is putting it pretty strong, when he says that honey-dew, improper food, etc., are of minor importance. My experience has proven that bees with stores of good, ripe honey, will winter under most unfavorable conditions; while with stores of poor honey, and honey-dew, they will not winter well under the most favorable conditions of temperature and ventilation.

Again, I cannot agree with Mr. Tyrrel, as to our having no control over the kind of food which our bees shall have for winter stores. The advanced strides of modern bee-culture, together with the improved manner of manipulating hives, places it entirely at the option of the apiarist, whether his bees will have honey-dew or something better for winter stores; and for my part, I expect to see to it that my bees do not have honey-dew for winter stores in the future.

If Mr. T. had said that all those bees, during his experiments, had the same kind of stores, it might prove a great deal in favor of a lower temperature for cellars; but if his bees with stores of good honey wintered well at 28° to 30°, and again on stores of honey-dew did not do well at a temperature above 42°, it does not follow that 28° to 30° is the right temperature. I have always considered the matter of food a very important factor, and in conducting experiments it should always be considered.

The temperature in my cave never goes below 40°, nor above 43°, no matter what the weather is outside, and the cave did not cost ten dollars.

Osage, Iowa.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Apr. 11.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Apr. 14.—Union, at Menlo, Iowa.
Mrs. J. E. Pryor, Pres., Dexter, Iowa.

Apr. 21.—Central Michigan, at Lansing, Mich.
W. A. Barnes, Sec., DeWitt, Mich.

Apr. 21.—Eastern Indiana, at Richmond, Ind.
M. G. Reynolds, Sec., Williamsburg, Ind.

Apr. 24.—Des Moines County, at Burlington, Iowa.
John Nau, Sec., Middletown, Iowa.

Apr. 27.—Darke County, at Ansonia, O.
J. A. Roe, Sec., Union City, Ind.

Apr. 21.—Marshall Co., at Marshalltown, Iowa.
J. W. Sanders, Sec., LeGrande, Iowa.

May 2, 3.—Texas State, at Greenville, Tex.
B. F. Carroll, Sec., Blooming Grove, Tex.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 7.—Welland County, at Welland, Ont.
J. F. Dunn, Sec., Ridgeway, Ont.

May 8.—Keystone, at Scranton, Pa.
Arthur A. Davis, Sec., Clark's Green, Pa.

May 8.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

May 19.—Nashua, at Nashua, Iowa.
H. L. Rouse, Sec. Ionia, Iowa.

May 22.—N. W. Ills. & S. W. Wis., at Rockton, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Cemented Bee-Cellars.—C. H. Dibbern, Milan, Ills., on March 21, 1888, says:

In reply to Mr. John B. Lindle, on page 185, I will say that I have used exactly such a bee-cellar as described by me on page 41. During the last ten years I have stored, every winter, from 100 to 180 colonies of bees in it, and I have not lost to exceed 2 per cent. in wintering. The present winter will be no exception, as the bees appear to be in fine condition.

Finding the Queen, etc.—Frank Waring, Philipsburg, Pa., on March, 28, 1888, writes:

This is how I now find queens after all other methods failed: I procure an empty hive like the one with the bees in, move the old hive back a few feet, and put the empty one on the old stand, with a drone and queen trap at the entrance, so that all the bees have to pass through the zinc. I then take a frame out of the old hive, and if I do not see the queen, I shake enough of the bees in front of the new hive so that I am *sure* the queen is *not* on the frame; then I put the frame into the new hive, cover it with a cloth, and proceed with another frame in the same way. If I get all the frames into the new hive without finding the queen, I find her trying to get in through the perforated zinc.

Last fall I had 14 colonies of bees, and now I have 13, one having frozen to death early in the winter. They were wintered on the summer stands, and are all in good condition. One strong colony had a hive-entrance 1⅝x12 inches, and is in splendid condition now. Yesterday I started the bees on rye meal, and to-day they worked on it with great vigor. Bees were flying in as great numbers as during a honey-flow in midsummer. I have one colony of pure black bees, and the rest are of all degrees up to *nearly* pure Italian.

Good Prospects—Hive Standards.—D. P. Barrows, Nordhoff, Calif., on March 21, 1888, says:

The season has opened very favorably, and the prospects are very fair for a good year for bees. There was very little honey last year, but our bees are doing very well, and the majority are well supplied with honey. My bees have not swarmed yet, but I am looking for them to do so soon, as there are a great many drones about the apiary, and in many hives. Will some one suggest a good standard for which to place hives on?

Experience in Bee-Keeping.—Walter B. Boutwell, Lowell, Mass., on Mar. 18, 1888, writes:

I began with 1 colony, increased it to 3 the first year, and the next year I increased them to 8 colonies; the next year I increased them to 13 colonies. I have lost all but 3 colonies. I had a swarm issue on Aug. 26, which was very late, but I thought I would try to save it. I hived it on comb foundation, and it gathered some honey before frost came; so I put it into the barn cellar, in a window, so that the sun would shine in very warmly. I fed it with one-pound sections of honey in the window, and it carried the honey into the hive; it wintered in that way, and in the summer it built up so as to make a very strong colony. I can sell a great deal of honey in Lowell for 30 cents a pound. There is not much honey in that town now.

Properly Caring for the Bees.—J. W. Sanders, Le Grand, Iowa, on March 22, 1888, writes:

I prepared my 64 colonies for winter last October, by strengthening the weak in stores from those that had enough and to spare, and putting in division-boards. I made a record of the condition of each colony, by giving the age and quality of the queen, number of frames, strength of the colony, and amount of stores. This I have in my apiary register, and also on a tablet which is tacked on the front of each hive, where I can see it at any time when in the bee-cellar.

On Nov. 19 and 21 I put all the bees into the cellar, where I intend to have them remain until about the time willow and maple are ready to bloom. The temperature of the cellar has been from 36° to 42° the most of the time since they were put in. A few times I had to use a little stove in order to keep the temperature above freezing, when it was 20° to 36° below zero out-doors, and perhaps a high wind. Such weather will some times affect cellars here, and I find it a good thing to have a thermometer in the cellar. March 18 was a very warm day, being 66° in the shade, but about 50° in the cellar, and the bees were more restless than at any

time during the winter. I opened the doors in the evening, so as to admit a good change of warm, fresh air.

The cellar is so arranged that I can open the outside doors, and not admit light to the bee-room. On March 21 I examined them, cleaned out the dead bees where necessary, and as far as I could see all seemed well except two or three colonies that were a little too much clogged up with dead bees.

The harvest of 1887, in this part of Iowa, was almost an entire failure, and from my own observations and inquiry, I think that there will be a large number of colonies that will perish during the winter, for want of stores where they were not properly cared for in the fall. The mercury this morning was 6° below zero. It is a good thing that the bees are in the cellar yet.

Bees Wintering Poorly.—Jno. G. Pursel, Round Plains, Ont., on March 29, 1888, says:

In this locality, so far as I can learn, bees are wintering badly, the losses being about one-half. They are badly affected with diarrhea. I have 20 colonies in the cellar, which are all right. I wintered my bees at a temperature of 40°.

How the Bees have Wintered.—Roland Holmes, Ft. Wayne, Ind., on March 23, 1888, says:

Bees have wintered well in this locality. The drouth last year cut the honey crop short, my bees producing only 34 pounds of surplus per colony, and they were in good condition for the honey flow; but it did not "flow." I have 40 colonies at present.

Successful Cellar-Wintering.—E. P. Colburn, New Cassel, Wis., on March 23, 1888, writes:

My bees have wintered nicely. Five colonies were outside, in double-walled hives filled with dry sawdust. They had a cleansing flight on March 19, and I found that they were in fine condition. I have 40 colonies more in the cellar, which I have not taken out yet, but I know they are all right. My cellar has a furnace in one part of it, which makes it a nice place to winter bees. I never have any moldy combs to bother with in the spring. I never have lost but 3 colonies while wintering them in the cellar. I am very fond of bees, and owe what I have learned about them to the AMERICAN BEE JOURNAL. I am a miller by trade, have about 15 acres of land, with the bees near the mill, so that I can attend to them at odd times, with some of my wife's aid in case of necessity.

Bee-Stings—House-Apiary, etc.—Alva F. Wilson, Prairie City, Iowa, on March 25, 1888, writes:

I put 60 colonies into a bee-cave last fall, and I am ashamed to say I let 12 or 14 colonies starve: the rest are in fine condition. In mild weather I open the door in the south end of the cave, and also the ventilator in the north end at night, thus letting the bees have fresh air. I am a farmer, and I would as soon think of doing without my cows as to be without the bees. Bees sting occasionally, cows kick, but I will take the bees and honey for profit, in preference to the cows and butter, compared with the amount of labor and expense. Last year was a poor year for honey, as well as for other crops.

I think that I have found the best antidote for a bee-sting. It is lemon juice and salt. I cut off a piece of lemon, put a little salt on it, and apply it. It will stop the pain instantly, and keep it from swelling.

I would like to hear from some one that has had experience with house apiaries. I am thinking of building one as an experiment, on a cheap scale, 10 feet wide, 50 or 60 feet long, one story high, to accommodate two rows of hives on each side; the walls to be double, and warm enough to let the bees stay in it the whole year around. It will have bee-escapes, as described on page 108. There is lots of bad weather on the farm, that I could work at the bees in the house, when I could not do anything else. They could fly when they wished. It is so much work to carry bees in and out of a cave, and they are always liable to mold.

Strong Colonies in Chaff Hives.—Nathan Mercer, Neosho, Wis., on March 18, 1888, says:

I have 83 colonies of bees left from 99 colonies, all in chaff hives. About one-half of them now cover 10 frames of comb, and are increasing fast. Twelve colonies starved to death. I supposed they had plenty of stores to last them until spring; but being such strong colonies, they consumed more than I expected. I suppose I will have to feed some.

Bees Wintering Well, etc.—J. L. Comstock, Sac City, Iowa, on March 28, 1888, writes:

My bees are wintering well so far. I have 31 colonies in the cellar. They had good honey to go into winter quarters with, being mostly basswood. In the spring of 1887 I took 52 colonies out of the cellar, and I sold 27, which left 25 colonies. I had only 7 natural swarms. My bees gathered 500 pounds of comb honey in one and two pound sections. I united 2 colonies in the fall, which made 31 good colonies, and all are alive. The indications are that we will soon have them on the summer stands. It is very warm to-day.

Rearing Queens, etc.—G. Crouse, Ithaca, Mich., on March 20, 1888, says:

I notice that Mr. Doolittle claims that queens reared by natural swarming are better than those reared as breeders generally rear them. Will some one please state in the BEE JOURNAL how they are reared in the latter case?

My bees have wintered well. I have 22 colonies in chaff hives, on the summer stands, with but one weak colony among them. So far I have not lost any, and young bees are hatching in nearly all of the colonies. I began last season with 11 colonies, sold 2 swarms, increased my apiary to the present number, and obtained 550 pounds of honey in sections. The bees were wintered on stores of their own gathering

Cheap Queens.—W. H. Shaner, Leechburg, Pa., on April 2, 1888, says:

Last August I bought 4 cheap, untested Italian queens. One was ailing when I got her, and the colony kept its drones. The queen did not lay until October, when I noticed the bees carrying several young queens out. I examined the colony, and found a young queen (which has proved to be a drone-layer) and a little brood. On Feb. 12, I found another cheap queen in front of a hive, dead; and on March 26 still another. I am disgusted with cheap queens. I want no more of them.

Bees have wintered well in the cellar and on the summer stands. They carried in the first natural pollen on March 27.

Experience with Black Bees.—E. T. Smith, Bowling Green, Mo., on March 29, 1888, writes:

Last fall I had 47 colonies of mostly black bees, which were reduced, by doubling and letting the moth destroy them, to 23 colonies. I now have 7 fine colonies of Italians and pure hybrids. I want no more black bees. They are like poor land, which produces a good crop when the season is perfect. We have had some fine spring days, but mostly cold, damp weather. My bees brought in pollen from soft maple on March 18. I am not discouraged, but still fond of my bees, which I keep for pleasure, and, as my reports shows, not for profit.

Bees all Right in the Cellar.—A. J. Adkison, Winterset, Iowa, on March 29, 1888, says:

I put my bees into the cellar during the cold weather that we had the last of November, 1887, and they appear to be doing well. There are very few dead bees on the cellar floor, and they are very quiet. I have a partition across the east end of the cellar where the bees are, and I never go in there except to look at the bees. There is no window in that part. When the weather was 30° below zero outside, it was 36° above zero inside. I think that more than half of the bees that were left on the summer stands will die. Some bee-men have lost more than half of their bees already.

Bee-Keeping in W. Virginia.—G. C. Hughes, Pipestem, W. Va., on March 26, 1888, writes:

The industry of bee-keeping is yet in its infancy in this part of the State; yet I see no reason why it may not be made a profitable business. We are situated on the backbone of the Alleghany Mountains, where the coves and valleys are covered with basswood, poplar, locust, etc., and the ridges are covered with sourwood. White clover grows spontaneously, and red clover grows well. My brother was the first to place bees in frame hives in this county, about ten years ago; soon afterwards he died, when the industry waned, until about two years ago Rev. Mr. Houchins and myself bought some bees in hollow-log gums, which we transferred into chaff hives. So far as I have been able to find out, bees have wintered well, and the prospects are good.

Cold Weather for the Bees.—W. Mason, Fillmore, Ind., on March 22, 1888, writes:

We are again in the midst of a blizzard, and with such a chill that a great amount of brood may be lost, as some have been feeding already to start brood-rearing, through some of the warm days just past, which I claim is bad policy. My bees have wintered well, having but two flights in four months, the first on Feb. 23, and the last on March 18 and 19. I always return my bees to their winter quarters on the appearance of a cold spell, in spite of other work. Bees have wintered well in this part of the State, and where properly packed, but of those left to take care of themselves, a large per cent. are lost. I find this to be the result of not taking a good bee-paper, and not attending bee-meetings and profiting by them. But such are not bee-keepers, but bee-failures. A great many bees are being lost by drowning in the sap-pails in the sugar orchards. My plan to stop this is, to take an ax and go to the nearest sugar trees and hack them as high as one can reach. The bees will go to that instead of the buckets.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Money Orders for $5.00 and under, cost 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them.

We Club the AMERICAN BEE JOURNAL and the "Bee-Keepers' Magazine" for one year for $1.40; or with "Gleanings in Bee-Culture" for $1.75; or with the "Apiculturist" for $1.80; or the "Canadian Honey-Producer" for $1.30; with the Bee-Keepers' Review, $1.40; or all six for $4.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

The Answers.—The following are the replies to the "Questions" propounded on page 141, concerning the new Heddon hive, tabulated in order to save space.

Names of persons who are using the New Heddon hives.	Number in use of these hives.	No. of Seasons.	By whom were the hives made?	From what pattern.	The Hive which I now prefer—everything considered.
O. F. Ahrens	30	2	myself	Heddon	Langst'h
P. J. Bates	20	2	"	"	New Hed
P. Baumhauer	3	1	"	"	"
H. Bierman	20†	2	"	"	"
J. W. Bittenbender	120	3	"	"	"
W. Bitzer	2	1	"	"	*
W. E. Bogardus	20†	2	"	"	"
C. E. Boyer	75	3	"	"	"
Joshua Bull	5†	1	"	"	"
H. C. Burgess	5	2	"	.....	"
Louis F. Burgess	4	1	"	Heddon	"
Wm. S. Buss	10	1	"	Newm'n	"
K. E. Cardner	12†	1	"	Heddon	"
W. F. Clarke	4	2	Jones	"	a "
J. M. Cheesman	7	2	myself	"	Chat'q'a.
J. Deegan	..†	..	"	"	New Hed
A. M Downs	30	2	"	"	a "
E. E. Ewing	5	1	"	"	*
G. W. Fair	2	1	"	"	Old-Hed.
W. E. Forbes	1	2	Hed'n	"	*
O. Foster	2	1	myself	"	Langst'h
D. Furness	80	2	"	"	New Hed
I. R. Good	25	1	"	Newm'n	a "
W. H. Gowan	25	1	"	Heddon	"
D. S. Hall	45	2	"	"	"
N. L. Hanson	10	1	"	Newm'n	*
U. Harmon	30†	2	"	Heddon	"
S. H. Harrison	4†	2	"	"	"
A. J. & E. Hatfield	40	1	"	"	*
E Hawley	10	1	"	.....	"
S. Heath	6	1	Bish.	Heddon	"
L. C. Hipple	25	1	myself	"	"
F. L. Howes	35†	1	"	Falcon'r	*
W. Z. Hutchinson	75	3	"	Heddon	"
J. E Jones	10	1	Hed'n	"	"
E. D. Keeney	2	1	myself	"	a "
W. J. Keller	8†	1	"	"	"
W. C. King	35	2	"	"	"
Lighty & Zeigler	20	1	"	"	"
D. B. Lindsey	60	2	"	"	"
T. W. Livingston	7	1	"	"	"
A. McDourell	1	1	.....	Newm'n	"
A. McWain	..†	..	myself	Heduon	"
E. R. Magoon	24†	1	"	"	"
T. N. Marquis	15†	1	"	"	*
J. H. Martin	50†	2	"	"	"
G. J. Moloney	30	2	"	"	*
M. S. Morgan	..†	..	"	"	"
W. C. Nutt	26	2	"	Newm'n	*
J. J. Owens	18	2	"	Heddon	*
A. A. Parsons	12	2	"	"	*
H. B. Pattersaugh	16	2	"	"	"
W. H. Putnam	49	1	"	"	a "
J. Richardson	1	1	Hed'n	"	"
John W. Rider	..†	..	myself	"	"
L. H. Robey	1	2	Hed'n	"	Simple'y
J Rogers	19	1	myself	Newm'n	New Hed
C. M. Ruland	2	1	"	Heddon	*
P. Schaub	13	2	"	"	"
F. H. Seares	140†	2	"	"	"
E. M. Slocum	21	2	"	Newm'n	*
C. F. Smith	19	1	"	Heddon	"
G. Smith	49	2	"	"	"
C. Solveson	27†	2	Lewis	"	"
J. J. Snyder	10	2	myself	"	*
M. L. Spencer	14	2	"	"	*
W. B Stephens	50	2	"	"	"
F. P. Stiles	40	2	"	"	"
W. A. Stolley	50	2	"	"	"
Sykes & Son	18†	1	"	"	*
W. C. Seymour	10	2	"	"	a "
R. L. Taylor	350	2	"	"	"
M Thomson	8	2	"	"	"
O. H Townsend	41†	2	"	"	a "
T. L. Von Dorn	40	2	"	"	"
W. G. Wadsworth	..†	..	"	"	*
F. B. Wilde	35	1	"	"	"
J. Woodmansee, Jr.	27	1	"	"	"
A. Wortman	30	1	"	"	*

REFERENCES.—† Indefinite figures.
* Undecided, on account of poor season.
a Preference for comb honey.
t Making a quantity more for use.

In all, there are 79 answers from persons having 2,183 of these hives in use; of which 58 prefer the "New Hive;" on account of the unpropitiousness of the past season, 16 have not decided upon its merits; while preferring it for the production of comb honey, 6 cannot decide upon its adaptability for the production of extracted honey; and 5 prefer some other hive.

It must be understood that this is not here given in the *interest* of any person, but for the information of bee-keepers in general.

It is Extravagant Economy not to have hives, sections, comb foundation, etc., on hand when needed. To prevent disappointment, order early what you will need in that line. Then the hives can be nailed and painted in odd times, and the sections put together, so as to be ready at a minute's notice. It is a sad disappointment to need these things and then not have them on hand. They should be ordered **immediately.**

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Your Full Address, plainly written, is very essential in order to avoid mistakes and delays.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2 25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Honey and Beeswax Market.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections, to 14@15c. for off color and condition; 2-lbs., 14@15c. Dark is slow of sale at almost any price. Extracted, 7@9c., with good supply. Light demand.

BEESWAX,—22@23c. R. A. BURNETT,
Mar. 22. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.

Mar. 19. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.

BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St,

CINCINNATI

HONEY.—We quote extracted at 4½@9c. per lb., for which demand is good. Comb honey, 14@17c.—Supply large and demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Mar. 26. C. F. MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 14@17c.; the same in 2-lbs., 12@14c.; buckwheat 1-lbs., 10@11c.; 2-lbs., 9@10c. White extracted 8@9c.; dark, 5½@6c. Market dull; prices declining.

BEESWAX.—22@23c.
McCAUL & HILDRETH BROS.,
Mar. 10. 28 & 30 W. Broadway, near Duane St.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 17@18c.; 2-lbs., 15@16c.; 3-lbs., 14c. Dark and broken not quotable. Extracted, white in kegs and ½-barrels, 8½ to 9c.; in tin and pails, 9½@10c.; dark, ½-barrels and kegs, 5@7c. Market slow.

BEESWAX.—22@25c.
Mar. 10. A. Y. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.

BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts.; dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.

BEESWAX.—21 to 22c.
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.

BEESWAX.—25 cts. per lb.
Mar 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 6@7c. Market quiet.

BEESWAX.—18@21c.
Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

DETROIT.

HONEY.—Best white in 1-pound sections, 16@17c. Extracted, 9@10c. for light colored. Market weaker and supply only fair.

BEESWAX.—22@23c.
Mar. 14. M. H. HUNT, Bell Branch, Mich.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.,; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.

BEESWAX.—No. 1, 20c.; No. 2, 18c.

Mar.19. CLEMONS, CLOON & CO., cor 4th & Walnut.

Advertisements.

APIARY for Sale.—150 Colonies, Extractor, Foundation Press, and other fixtures. For particulars and prices address,
T. W. LIVINGSTON,
15A1t AINSWORTH, Washington Co., IOWA.

EGGS for Hatching, $2.00 per 13. From Prize Plymouth Rocks and Wyandott Fowls, scoring 90 to 93½. W. C. COFFMAN, Pewamo, Mich.
13A4t
Mention the American Bee Journal.

G. B. LEWIS & CO.

WE make the best Bee-Hives, the best Sections, the best Shipping-Crates, the best Frames, etc., etc.

☞ We sell them at the Lowest Prices.—Write for free Illustrated Catalogue.

G. B. LEWIS & CO.,
37Atf WATERTOWN. WIS.
Mention the American Bee Journal.

My 20th Annual Price-List of Italian, Cyprian Queens and Nuclei Colonies (a specialty); also Supplies—will be sent to all who send their names and addresses.
H. H. BROWN,
15D2t-18C3t LIGHT STREET, Columbia Co., PA.
Mention the American Bee Journal.

BEE-HIVES for Sale VERY LOW.

ABOUT 30 new LANGSTROTH, complete. Write to, **JAMES T. NORTON,**
15A1t WINSTED, CONN.
Mention the American Bee Journal.

WILL SEND C. O. D.

ITALIANS on Langstroth frames—two-frame Nucleus (no Queen) $1.50; 3-frame, $2.00. BEES per lb., 75 cts. Tested Queens, $2.00; Untested, in May, $1.00 To insure shipment of Bees by express, C. O. D., sufficient money should be sent to at least pay all express-charges. No foul brood.
15A4t **H. L. Pangborn, Maquoketa, Iowa.**
Mention the American Bee Journal.

VICTOR

SAFE.

DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.

We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with subtreasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE.
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOMAS G. NEWMAN & SON,
923 & 925 West Madison St., - CHICAGO, ILL.

Nothing Succeeds Like Success.

HOW I **Produce Comb Honey.** TEN years' Experience. First Thousand sold in four months. By mail, **5 cts.** each; $3.00 per 100. My illustrated Price-List of Supplies for the Apiary, **Bees, Queens, etc.,** FREE.

GEO. E. HILTON,
51Atf FREMONT, MICH.
Mention the American Bee Journal.
☞ May also be obtained at this office.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.
Mention the American Bee Journal.

The Bee-Keepers' Review

FOR **MARCH** is devoted to "Planting for Honey." If undecided upon this subject, by all means read this Number. The **April Number** (which will be out about March 20) will take up the topic of "Securing Workers for the Harvest," or perhaps it would be more proper to say, "Spring Management."

R. L. Taylor, James Heddon, Dr. A. B. Mason, Dr. C. C. Miller, E. E. Hasty, F. P. Stiles, H. R. Boardman, J. H. Robertson, J. H. Martin and Oliver Foster are among the contributors to these two issues. Besides this, there are several pages in each Number devoted to extracts and to short, pointed editorials upon live and practical subjects. An exhaustive review of Mr. Cheshire's great work, "Bees and Bee-Keeping," is begun in the present issue.

☞ Price of the REVIEW, 50 cts. per year. Samples free.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, **W. Z. HUTCHINSON,**
11Atf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

Bright Italian Queens.

I **HAVE** 50 Select Tested QUEENS of last year's rearing, that I will sell in April at $3 00 each; in May, $2.50; in June, $2.00; and from July 1 to Nov. 1, $1.50.

QUEENS, warranted purely mated, $1.00; 6 for $5 00. They are bred from the best of mothers and are superior to the common run of Queens sold at a lower price without any guaranty as to purity. I do not pretend to rear Queens under the Swarming Impulse. I believe with those who answer Queries in this JOURNAL—that it is a humbug. When it is necessary to stimulate to get good Cells, I do so, and that is all there is in it.

☞ Have your orders booked ahead, and send for the Queens when you want them. I will commence shipping Warranted Queens as early in May as possible. I guarantee safe arrival. Address, **J. T. WILSON,**
11D4t NICHOLASVILLE, Jessamine Co., KY.
Mention the American Bee Journal.

SUPPLY DEALERS

AND **OTHERS** should write to me for SPECIAL PRICES on **BEE-SUPPLIES** for this fall and winter.

☞ **A heavy Discount allowed.**

Address, A. F. STAUFFER,
44Dtf STERLING, ILLINOIS.

BEES AND QUEENS READY TO SHIP.

FRIENDS, if you are in need of **Bees** and **Queens,** I can accommodate you at the following low prices: One Colony of Italian Bees, on 8 Simplicity frames, in light shipping-boxes, $6.50; 5 Colonies, $30. One Untested Queen, $1.25; 3 for $3.30; 6 for $6. One lb. Italian Bees, $1.25; 3 lbs., $3; 6 lbs. $5.40; 10 lbs. $8 50. Prices to dealers sent on a Postal Card. Address, **W. S. CAUTHEN,**
13D4t PLEASANT HILL, S. C.

MINNESOTA AHEAD!

WE are selling **100 All-Wood Langstroth Brood-Frames** for $1.00; and Langstroth HIVES, with Supers, for 55 cts.

☞ Don't order your Supplies for 1888 until you see our Circular.

WM. H. BRIGHT,
10Atf MAZEPPA, MINNESOTA.

Full Colonies of Bees for Sale

CHEAP, during the season of 1888.
C. M. HOLLINGSWORTH, Rockford, Ills.
11-15-19
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. April 18, 1888. No. 16.

EDITORIAL BUZZINGS.

All the Bells of heaven may ring,
All the birds of heaven may sing,
All the wells on earth may spring,
All the winds of earth may bring
All sweet sounds together.
Sweeter far than all things heard,
Hand of harper, tone of bird,
Sound of woods at sundown stirred—
Bees are swarming—welcome word,
Sounding in warm weather.

Hoge's Honey Company, in London, failed, and in February offered a "first and final dividend" of one-sixty-fifth of a penny to the pound sterling to its creditors, or about $2.60 dividend for $1,000. This is a *wonderful* offer for the London Yankee honey-dealer.

It is no Secret, although it is said to be "confidential," that an effort is being made to create a life-annuity of $300 for the Rev. L. L. Langstroth. This very small amount is proposed to be raised by annual subscriptions or donations—or, more properly speaking, by "free-will offerings," borne by ready hands, with the hearty benedictions of the donors, and the warmest wishes for peace and happiness, to rest upon the head of this "grand old man," and Father of modern apiculture. As this matter is "confidential" among his friends, any one can obtain full particulars by sending a Postal Card giving your name and address to Dr. C. C. Miller, Marengo, McHenry Co., Ills.

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

Adulteration — Impurity, etc.— On page 265, Dr. Leers makes some very fine distinctions, while criticising a matter brought out at the New York Convention (see page 106). These distinctions will not bear the light of the definitions of these words by Webster.

For instance: To adulterate is thus defined: "To corrupt by some foreign mixture, or by intermixing what is less valuable; to pollute." An impurity is "an admixture of base ingredients." The words mean just about the same thing.

On our desk is one of the slips which one of Thurber's agents had the assurance to scatter at the New York Convention, stating that out of 42 samples of bottled honey analyzed, only 6 were pure, and Thurber's was one of the six. The whole thing looks like a *base impostion*, to use the words of the member of that convention who sent us the slip.

It is but a short time ago that the United States Chemist sent to honey-dealers in various cities for samples to analyze. Mr. Muth, of Cincinnati, sent him some, and nearly all were reported as "probably adulterated." Mr. Muth's were marked "probably pure." The whole thing was worthy of Prof. Wiley, the author of that infamous "scientific pleasantry!" He had the brazen effrontery to send to Mr. Muth for more samples to analyze. This was indignantly refused—in these words: "We *know* what we deal in, and handle only straight goods—and want nothing more to do with your *probably pure*." Good, for Bro. Muth. The name of that wily chemist will go down to posterity loaded with infamy!

If the chemist is honest and capable, would he not *know* the result of an analysis? Then is it not an evidence of *fraud* to say that a sample so analyzed is "probably pure?"

Statistics of Maine. — Mr. Isaac Hutchins, Secretary of the Maine Bee-Keepers' Association, has gathered statistics about bees in four counties in that State, and here are the aggregate figures:

Whole number of colonies reported: 3,353 in the fall of 1886; 2,068 in the spring of 1887; 3,737 in the fall of 1887; winter loss nearly 39 per cent., and the gain in number of colonies from the fall of 1886 to the fall of 1887, 11 per cent.; average amount of honey per colony, 12½ pounds.

Mr. W. Z. Hutchinson wisely remarks, that to produce comb honey in abundance, bees must be strong in numbers at the beginning of the honey harvest, and to secure this desirable condition, feeding must be carried on uninterruptedly for at least two months previous to the opening of the honey harvest. Aside from food in abundance, warmth is the great requisite for breeding. A colony of bees generates sufficient heat, but very much of it is lost by radiation. Warm, beautiful spring weather is sometimes followed by severe freeze which chills some of the brood.

The Summer Sleep of animals and insects was mentioned by the Rev. W. F. Clarke, on page 221, but his word *Æstivism* was incorrectly spelled, and Mr. C. desires it corrected. Our proof-reader was not familiar with the word, and consulted Webster's Unabridged Dictionary, and not finding the word there, made it as near to the writing as he could. Mr. C's writing is usually excellent, but in this case it was a little "blind," as printer's call it. When using a word not in the Dictionary, all should be very particular to write it so plainly that the spelling cannot be in doubt. Many of our best-informed writers are very careless in this particular. Of foreign words, botanical names, etc., each letter should be separated and written plainly.

The Union, Albinos, etc.—Chas. D. Barber, Stockton, N. Y., on April 9, 1888, writes:

It is warm here to-day. On April 4 I took my bees out of the cellar. I had put them in the cellar on Nov. 11, 1887, being in 145 days. They came out in good condition, and had plenty of stores. I think that we will have a good season this year. I lost but one colony. We have had a very cold winter. I think that we all ought to stand by Mr. Z. A. Clark. I am ready to pay an assessment, or five times the amount, to defend the members of the National Bee-Keepers' Union. Are there any bees that look like the Italians, but that are white instead of yellow? If so, what kind of workers are they?

Yes; Albino bees have white bands instead of yellow, and we have had such who would work fully equal to the best Italians.

In reference to the case of Mr. Z. A. Clark, we expect to be able to give some good *news* in our next issue. We can now say this much—that Mayor and those Aldermen have been ousted by indignant citizens, and if we mistake not, Mr. Clark's defense by the Union has been the prime cause of their expulsion from office.

Place of Meeting.—If the next meeting of the North American Bee-Keepers' Society is held at Columbus, it seems that we are to have a good place to hold the sessions. Dr. Mason, the President, says:

In a letter just received, I am informed that the hall of the House of Representatives has been granted for the use of the Bee-Keepers' Convention, at Columbus, O., from Sept. 18 to 21, inclusive.

We understand that circulars are to be sent to all the members to vote on the change from Toledo to Columbus, O. Let answers be returned as soon as possible, so that it may be decided definitely.

New Catalogues for 1888 are on our desk, from the following persons:

M. J. Dickason, Hiawatha, Kansas—16 pages—Bee-Hives and Supplies.

J. W. K. Shaw & Co., Loreauville, La.—4 pages—Bees and Queens.

Walter Harmer, Manistee, Mich.—1 page—Two-Ounce Honey-Sections.

GLEANS OF NEWS.

Bee-Keeping in Belgium.—The following article from the British *Bee Journal*, gives a good idea of the interest taken in bee-keeping by the authorities in Belgium, and will be read with interest by Americans:

If we are to judge from the tenor of a communication which has reached the *Revue Internationale d' Apiculture*, from M. Karel de Kesel, of Amougies-les-Renaix, Belgium, is at last not only becoming alive to the importance of apiculture as a means of improving the condition of farmers and others engaged in agricultural pursuits, but is about to take such practical steps as will place it at no distant date in a line with other European countries. We cannot do better, therefore, than place before our readers a translation of M. Karel de Kesel's communication, as published in the *Revue Internationale d' Apiculture*, and which is to the following effect:

"I am in a position to inform you that our Minister of Agriculture has just approved a report upon *Practical means for spreading the knowledge of keeping bees in our country*, and decided to at once give effect to the following two recommendations, viz:

"First.—To hold an International Bee-Exhibition in Brussels in the course of the present year, of which I will send you later on the prospectus.

"Second.—To order fifty lectures to be given in the most suitable Belgian districts for successful bee-keeping.

"In order to spread as much as possible the knowledge of bee-keeping, it has been decided that for this year no more than one lecture is to be given in each district. This first lecture will deal merely upon the rudiments of bee-keeping and manipulating, so as to initiate into correct principles those who have already acquired a natural instinct in the management of bees.

"The lecturer will be furnished with horse and trap. In these he will carry about with him, among other things, a stock of bees to be used for practical demonstrations at his lectures. An adequate amount of publicity will be given, to the effect that *a bee expert is about to arrive with an ambulant apiary*, that he will bring with him bee-hives on the movable bar-frame principle, that the combs will be removed from and replaced into the hive at pleasure, and that the bees will be seen working through glass. Mention will also be made that the lecturer will bring with him bees of several breeds, as well as bee-hives, from which as many as 75 kilos of honey can be obtained in favorable seasons; and that, in fact, he will show them sundry bee-furniture of the latest invention, etc. It will also be made known that editors will be supplied gratis with a summary of the lectures, together with a lithographic design of an improved bee-hive, together with explanations and a list of the most approved books on bee-keeping. The explanations and documents which you have sent me, showing how a bee-association could be best organized in Belgium, will be of great assistance to me. Again M. Vernieuwe, attached to our Ministry of Agriculture, himself an amateur bee-keeper, has received the particulars which you and Mr. Cowan have sent him.

"We shall soon send out to all the bee-keepers known in Belgium an invitation to a general meeting, in order to agree upon the main point of a proposed association."

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while here are any sets of 1887 left.

Fraternal Relations with our co-workers should always be maintained, if there is a possibility of its being done. We have often urged this, and at the International Convention held in Cincinnati, O., in 1880, we made some remarks upon an essay by Mr. A. J. King, relative to this, which were recorded in the printed minutes in these words:

President Newman remarked that it was exceedingly encouraging to witness the spirit in which Mr. King had written, and of his kind allusions to the Rev. L. L. Langstroth, whom some unwise enthusiasts are now trying to misrepresent and abuse. Mr. Newman said that he had not the pleasure of even a personal acquaintance with Mr. Langstroth, but revered him only for his noble work and devotion to the science and art of bee-culture. Mr. King's allusions to the necessity of adopting the newest and most perfect methods, as well as to keep abreast with the times in every department of apiculture, he regarded as the very key-note of success.

The speaker very heartily endorsed the position taken by Mr. King, that "the living issues" of to-day demanded of us something else besides bickering and strife, begotten of envy and malice. In the great work before us, he was happy in the thought that generally we were alive to our duty, and *united*.

Himself, the editor of the BEE JOURNAL in Chicago, he had been gallantly supported on his right and left on the platform at this meeting by the editors of *Gleanings in Bee-Culture* and the *Bee-Keepers' Instructor*, the two Ohio bee-papers. He had noticed in the auditorium the editor of the *Bee-Keepers' Guide*, of Indiana, who was taking a lively interest in the discussions, and the paper just read was from the editor of the *Bee-Keepers' Magazine*, of New York, and he noticed on the programme an essay from the editor of the *Bee-Keepers' Exchange*.

These six editors are now all arranged in solid phalanx, ready for the fray, and will give the common enemy a fierce and determined battle. This is not only flattering to the Society, but inspires all to look for a successful and triumphant issue. He congratulated the Society upon the self-evident union, peace and harmony now prevailing, and earnestly desired that it might be permanent. He felt happy that his term of office as President concluded under such auspicious circumstances.

It is a pleasure to note that these sentiments are fully endorsed by Bro. Root in the last issue in *Gleanings*, in these words:

Very often, in meeting bee-friends, and a good many times visitors at our establishment, when the subject of our bee-papers comes up, some, with a little embarrassment, acknowledge that they have been taking the AMERICAN BEE JOURNAL instead of *Gleanings;* and sometimes they seem to think that may be I shall feel displeased when I am told this. Why, bless you, friends, if I should let any such feeling get possession of me, I should be unworthy of my position. It affords me just as much pleasure to take a brother by the hand who has taken the AMERICAN BEE JOURNAL for years past—yes, and contributed to its columns—as if it were the other way. In fact, I am more likely to get original ideas, thoughts, and suggestions from him.

The AMERICAN BEE JOURNAL is an honor to our industry. It comes weekly, which is more than *Gleanings* ever expects to do, and it costs only a dollar a year. Bro. Newman has been standing faithfully at his post for many long years. Not a single number has failed, or even been behind-hand. Many of the best friends of *Gleanings* are among the contributors of the AMERICAN BEE JOURNAL. Now, if we cannot be brothers, all the same, even though we do take different periodicals, we are not up to the spirit and progress of the times.

True; quarrelsome and jealous persons are *not* up to the *spirit* of the times. *Gleanings* was started by its present editor in the same year that the AMERICAN BEE JOURNAL came into the hands of its present editor. Both periodicals have run along side by side, and while aiming to do the same work, are to-day in full harmony and fellowship—rejoicing in each other's prosperity. Long may these feelings continue.

While we cannot endorse all that we notice in other bee-papers, if we criticise anything we desire to do so respectfully; and if others criticise us in the same manner, there should be no contention between us, other "than that noble contention, or rather emulation, of who can best work and best agree." While harmony is desirable, jealousy is despicable.

Worth a Year's Subscription.—Many have written their congratulations upon receiving No. 14. It was a genuine surprise to receive that Special Spring Number of the AMERICAN BEE JOURNAL for April 4, 1888—and that day was a beautiful one in this latitude! The BEE JOURNAL did (as we expressed the hope that it might) "usher in and give a general welcome to Spring!" Here is what Mrs. M. B. Chaddock said about it:

Why, the AMERICAN BEE JOURNAL is having a boom; isn't it? First, it comes out in a new dress, so that I have to look at the heading a time or two to be sure that it *is* the old AMERICAN BEE JOURNAL; then last week there came such a wealth of reading matter—such a great wealth of engravings! Why, that one number is worth the whole dollar that you ask for the year. Are you going to keep on doing this way? I have said before, and I say it again, that editors are the most *surprising* people in the world!

Mr. A. C. Tyrrel, Madison, Nebr., has sent us a photograph of his residence and apiary, and remarks as follows:

I send you a winter view of my residence and apiary in the *far* West; once considered the "Great American Desert." The honey-house is in the rear of the dwelling house. The bee-hives are not shown, from the fact that they are yet in the bee-cellar. When I bought the grounds in 1876, before the advent of railroads and the influx of actual settlers, I little realized that such wonderful strides would be made in my day and generation. Our county now points with pride to her public improvements, viz: Insane asylum, street railways, Normal College, Court House, three story brick blocks, two great lines of railways traversing the county east and west, and north and south, etc., and another surveyed.

The residence and grounds exhibit fine taste, and shows that the "Great American Desert" is being transformed into a rich garden, with trees and flowers, interspersed with grand residences of active, pushing men. The beautiful photograph is placed into the BEE JOURNAL album with much pleasure.

Honey as Food.—We copy the following item from the British *Bee Journal* on "honeyed food:"

The aim of your new venture would, mayhap, be furthered by the gathering together of receipts for eatables in which forms a part.

In the hope that you will find room for such, and that others of your readers will add to the stock, I send the following by way of beginning:

In Miss Gordon-Cummings's *Wanderings in China*, wherein she describes a Chinese dinner, occur "ham stewed in honey," and "pears sliced in honey," "crab-apples and chestnuts preserved in honey and dried." We are not told what kind of pears are used, but our stewing pears seem suitable.

It does not appear whether the *ham* is cured, or stands for *leg;* but perhaps the latter, for we have it, in his own *Confession* that St. Patrick found fresh pork seasoned with honey so luring that he ate more of it than was good for him. Being on board ship, where they were short of provisions, at last they fell in with a herd of swine, of whom, killing many, they ate their fill, seasoning the meat with an opportune find of wild honey. As might be expected, St. Patrick had night-mare. This was not due to the honey, but to the surfeit of pork to a starved stomach.

Your readers are advised (1) to try such of the Chinese dishes as they have a chance, and (2) to take warning by St. Patrick.—G. O. WRAY, L.L.D., *Bedford.*

In America our best hams are cured with honey, and pears and apples are often preserved in honey. In fact, honey has the quality of preserving, for a long time in a fresh state, anything that may be laid in it or mixed with it, and to prevent its corrupting in a far superior manner to sugar; thus many species of fruit may be preserved by being laid in honey, and by this means will obtain a pleasant taste, and give to the stomach a healthy tone. One who has once tried it, will not use sugar for preserving fruit.

Honey may replace sugar as an ingredient in the cooking of almost any article of food—and at the same time greatly add to its relish.

Digestion (all-potent in its effects on the mind as well as the body) depends largely on the food. Poor honey, received into a poor stomach, is the cause of many unhappy homes—while good, healthy food, received into a healthy stomach becomes "an Angel of Peace" to many a household.

Robbing.—An exchange wisely makes the following seasonable suggestions:

Stimulative feeding in early spring often produces robbing. This should be carefully guarded against, as disastrous results are often produced at this season by robbing. Colonies are weak in bees, and are not liable to protect their combs with such certainty as when strong in numbers at other seasons of the year. Hence we should be on our guard at the critical time. It should be ascertained if every colony has a fertile queen. This is the best preventive. Colonies having defective queens are always the foundation of trouble, and such never fail to come to naught if neglected. If good queens are not at hand to fill the deficiency, they should be united with other colonies containing good fertile queens.

BIOGRAPHICAL.

S. J. YOUNGMAN.

The following is a biographical sketch of this successful apiarist of Michigan, written at our request, by Mr. Youngman himself:

My father was born in Tioga county, Pa.; and my mother in Boston, Mass. My father afterward removed from the United States to the Dominion of Canada, but becoming complicated in the so-called rebellion or patriot war of 1837-38, he was obliged to leave. Applying to the Mayor of the city of London, for a "pass" to the United States, he was told by him in a very emphatic and bombastic manner, "Yes, I will give you a pass to London jail, and from there to h——." A hint being sufficient for the wise, he, like the Arabs, "folded his tent and silently stole away," coming to Michigan; and the subject of this sketch was born at Oxford, in Oakland county, on Feb. 1, 1848,

S. J. YOUNGMAN.

entitling him to the distinguished title of "Wolverine."

My father again removed to Montcalm county, settling in the town of Cato, in 1856. It was then a new country, and he moved through 20 miles of unbroken forest, apparently only the home of the Indian and the wild beast. The making of sugar from the maple tree, and hunting of the deer, was a source of revenue, and a pastime. It was also soon found that the woods were full of wild bees—the more strange, as there were no domesticated ones within at least 20 miles, and there but a few.

The hunting of bees soon was practiced, and the cutting of some huge pine trees for the honey was a much-looked-for event. The honey was quickly sold at a price that would make a modern apiarist smile; and although the honey was mostly from basswood, the way it was handled would make the purchaser of the present day decline, with thanks. It was when enjoying this exciting sport and revelling in the delicious sweet, stolen from the wild bees, that I conceived the idea of domesticating some of these, which were regarded, at that time, as being unmanageable insects. So some medium-sized trees containing bees were selected, and let down gently with a block and line. But this did not suffice. A deep interest was aroused. The interior of these log hives could not be exposed, so some movable-frame hives were procured, and some of the bees transferred. This was the beginning of an extensive apiary, containing at one time 140 colonies in Langstroth hives, and with all the modern improvements, such as extractor, comb foundation, etc.

In 1884, I conceived the idea of having bees wintered in the South, and the same sent to the North in time for the basswood bloom. Bees having wintered disastrously at the North, a contract was made with Mr. E. T. Flanagan, of Illinois, to try the project. Accordingly a carload of bees were sent from Kenner, La., in a common freight car, *via* Chicago, arriving at Lakeview, Mich., on the evening of June 19, 1884, having been about ten days *en route.* Many colonies had perished for want of stores.

As no agreement had been made with the railroad companies between Chicago and the place of destination, they evidently thought that so valuable a consignment should pay a round transportation price, and so the modest charge of $489 was fixed upon by the companies of the two roads that the bees passed over. I refused to accede to their exorbitant demand, and also to take the bees. The railroad agent having such an "elephant" upon his hands, was obliged to call upon me for assistance to remove the bees from the car, and also to take care of them, which I was of course glad to do, as they were in need of having the dead bees removed from the hives, etc. The charges were finally reduced to $140, which was quickly paid, and the bees removed to my farm some three miles from the depot.

I will not receive any more bees by freight, but will sometime give, in the BEE JOURNAL, my views as to how bees should be sent by express.

Although largely engaged in farming (having a farm of 480 acres), I still have time to attend to the bees. I had about 30 acres of Alsike clover the past season, and the result shows a larger yield of honey than any apiary near, that did not have access to the same. S. J. YOUNGMAN.

No Better Evidence of the spread of modern bee-culture over the world has lately reached us than a little journal published in Mahon, Balearic Islands, east of Spain, entitled *Revista Apicola* (Apicultural Review). It is edited by Francisco F. Andreu, and is thoroughly abreast with the latest improvements. Mr. Andreu has just been traveling through France and England, and has adopted the system most prevalent in the latter country. The large yields per colony made in England seem to astonish Mr. Andreu; but we seem to think his astonishment will increase when he learns the large yields made by Edwin France, for instance, in hundreds of colonies. He speaks of apiculture in France as being in a very backward state. He says that in the garden of Acclimitization, in Paris, the old box-hives are shown as representative of apiculture in France to-day. The journal has 8 pages, and is published at a nominal price which does not seem to be stated.—*Gleanings.*

Favors the Syrians.—John H. Guenther, Theresa, Wis., writes:

I commenced with 37 colonies last spring, and some of these were rather weak, because I put too much confidence in outside packing. I work for extracted honey, and depend upon Alsike and basswood chiefly for surplus. I have nearly all Syrian bees, and for our short season I think they are the best.

QUERIES AND REPLIES.

SPACE FOR BEES TO CLUSTER IN WINTER.

Written for the American Bee Journal

Query 533.—Would it make any perceptible difference in wintering bees in a cellar of the proper temperature and ventilation, to remove a few of the frames in the hives to give wider space for the bees to cluster? It seems to me that in a cellar properly ventilated and tempered, there is not enough in it to pay for the trouble.—E. W.

No.—A. B. MASON.

No.—DADANT & SON.

No.—G. L. TINKER.

No.—M. MAHIN.

I think not.—J. M. HAMBAUGH.

No, you are quite correct.—R. L. TAYLOR.

I have no experience in cellar-wintering of bees.—P. L. VIALLON.

The "perceptible difference" would be *very small.*—J. P. H. BROWN.

That is just what I think, having tried it.—EUGENE SECOR.

I do not spread the frames for winter, and I doubt its paying so to do.—G. M. DOOLITTLE.

I do not think that it would. It would be better to use "Hill's device" over the frames.—MRS. L. HARRISON.

I do not think that it will pay for the trouble and disturbance.—H. D. CUTTING.

No, not for wintering. Yet I prefer to do so, as it gives a smaller chamber in the spring. I always contract the brood-chamber before putting the bees into the cellar in the fall.—A. J. COOK.

I do not think that there is any need of so doing. Give an inch of space at least over the tops of the frames, and you will be as nearly right as is possible.—J. E. POND.

I do not think that it would be of any advantage whatever. It would not pay for the trouble.—C. H. DIBBERN.

Some good authorities attach much importance to it, but I have never thought it worth the trouble to make any change.—C. C. MILLER.

I have tried this plan repeatedly, and I find no marked results. Differently spacing frames between summer and winter, is not practical, and will never be generally practiced.—JAMES HEDDON.

Ordinarily, I would not do it. But if you use nine frames in an 8-frame hive, the combs are too thin to hold as much honey over the cluster as there ought to be. In this case it is well to remove one frame and space the remaining ones so they can "fatten up" a little. When frames are spaced 1½ inches from center to center, the season through, this manipulation is not necessary.—J. M. SHUCK.

I think that you are right when you say that "there is not enough in it to pay for the trouble." I do not believe that there is anything to be gained by spreading the combs at any time or under any condition. That the cluster should be divided by the thin septums of the combs to insure ventilation and healthful conditions, is plainly indicated by the form of the brood-nest, as we see it in a state of nature.—G. W. DEMAREE.

If there were any advantage it would be so slight that it would not pay for the trouble.—THE EDITOR.

DUMMIES FOR CONTRACTING THE BROOD-NEST.

Written for the American Bee Journal

Query 534.—If I would use wide frames with a thin board on either side filled with chaff or some other substance, would it not be a good "dummy," or is it not the best? If not, what is the objection to it for contraction?—Iowa.

Yes, it is equal to any.—R. L. TAYLOR.

I think that it would be good.—MRS. L. HARRISON.

It is too expensive for a simple dummy.—A. B. MASON.

Yes, that makes a good dummy, for my experience says so.—G. M. DOOLITTLE.

Certainly, very good.—J. M. HAMBAUGH.

I think that it is good.—C. C. MILLER.

It would be a first-class dummy.—M. MAHIN.

Wide frames when filled as you suggest, make a good "dummy."—J. P. H. BROWN.

Instead of thin boards on both sides, I would use cotton duck on the side towards the bees.—P. L. VIALLON.

I should think that they are all right for either purpose.—EUGENE SECOR.

It is good, but a board is cheaper, stronger, and more easily made, and about, if not quite, as good.—A. J. COOK.

We want the board to *fill up* at the ends. Your frame would not do so, and would leave an escape for the heat.—DADANT & SON.

Yes, it will make a good dummy if you would perforate with holes about 3-16 of an inch on the side next to the bees.—H. D. CUTTING.

I do not know, as I have had no experience with such an arrangement.—C. H. DIBBERN.

I have used wide frames as described, and they work well in a large brood-chamber.—G. L. TINKER.

Yes, the wide frames boarded as you describe, make first-rate "dummies," and I think that that is all they are fit for. My objection is, that they cost too much; besides, I prefer plain division-boards to any sort of "dummies."—G. W. DEMAREE.

It is a good "dummy," and just what I use with the Langstroth hive; but since I have used the new hive for contraction, I am discouraged from practicing contraction with the Langstroth hives.—JAMES HEDDON.

I do not understand the question, unless a chaff division-board is meant. If that is the case, I will say that I find no better protection than a frame of comb itself. I discarded all extra means of protection in the way of division-boards or dummies, some years ago, and I now lose no more bees than formerly.—J. E. POND.

Yes, this makes a good dummy or filler. I have made many in this way. The bottoms and ends should be cushioned so as to fit the inside of the hive. I do not use such things any more; they are too "dummy."—J. M. SHUCK.

Yes; as a "filler" it would be all right, if the ends and bottom were cushioned to make it fit tightly, and thereby retain the heat.—THE EDITOR.

CONVENTION NOTICES.

☞ The Eastern Indiana Bee-Keepers' Association will hold its spring meeting on Saturday, April 21, 1888, at Richmond, Ind. M. G. REYNOLDS, *Sec.*

☞ The Des Moines County Bee-Keepers' Association will hold its next meeting on April 24, 1888, at Burlington, Iowa. JOHN NAU, *Sec.*

☞ The Darke County Union Bee-Keepers' Association will hold its annual meeting on Friday, April 27, 1888, at Ansonia, O. J. A. ROE, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited. W. H. BEACH, *Sec.*

☞ The Marshall County Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Saturday, April 21, 1888, at 10:30 a.m. The subject for discussion is, "Spring and summer management of bees." A general invitation is extended. A good meeting is expected. J. W. SANDERS, *Sec.*

☞ The 18th semi-annual session of the Central Michigan Bee-Keepers' Association will be held in the Pioneer Room at the State Capitol, on Saturday, April 21, 1888. Prof. A. J. Cook will give an address. A cordial invitation is extended to all, as it will be a very interesting meeting. W. A. BARNES, *Sec.*

☞ The annual meeting of the Western Bee-Keepers' Association will be held at Independence, Mo., at the Court House, on April 25, 1888. It will be carried on as a sociable, friendly gathering. Let all bring their baskets and have a good time. PETER OTTO, *Sec.*

☞ The next meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on May 5, 1888. The following subjects are to be considered: Bee-keeping for pleasure and profit—Spring work with bees—Is it advisable to use foundation? If so, to what extent?—How can we make our Association of the most practical value to its members. All are cordially invited to come. H. M. SEELEY, *Sec.*

☞ The tenth annual meeting of the Texas State Bee-Keepers' Association will be held at the bee-yards of Vice-President W. R. Graham, in Greenville, Hunt Co., Texas, on May 2 and 3, 1888. A leading feature of the convention will be criticisms upon subjects that have been mentioned in the bee-papers. A good time is expected, so let all Texas and Arkansas bee-keepers attend. A cordial invitation is extended to all bee-keepers wheresoever dispersed. Remember, no hotel bills to pay at our conventions! B. F. CARROLL, *Sec.*

CORRESPONDENCE.

MONTH OF APRIL.

Written for the American Bee Journal

BY EUGENE SECOR.

The gentle showers
And springing flowers
Proclaim the winter ended;
The perfumed breeze
From Southern seas
With song of birds is blended.

With active glee,
The joyful bee
Plays hide-and-seek with pleasure;
From tulip-bell,
In search of *mel*,
She comes with dusty treasure.
'Tis time to wed
The maples red,
And bees transport their kisses;
The willow sees,
Those blushing trees,
And tempts the little misses.

Box-elders smile,
And oft beguile
The insect world to tarry;
Anemones
Too, treat the bees
To more than they can carry.

Thus April brings
The fruit of Spring's
Bright hopes and youthful ardor;
The birds make love,
From wren to dove,
And, nesting, work the harder
At His behest
Who gave them rest.
So Winter's kindly given
To make us prize
These sunny skies,
And dream once more of heaven.

Forest City, Iowa.

VENTILATORS.

Automatic Ventilators for Use in a Bee-Cave.

Written for the American Bee Journal

BY C. THEILMANN.

This is surely something new in bee-literature, at least I have never heard of it, or have I seen it in print. It is not theory, but facts, and my personal observations.

Some time ago Mr. Doolittle said that his bees do not need any ventilation, while in his cave in winter, and requested other bee-keepers to describe their experiments on the problem. As I winter my bees in a cave similar to one that Mr. D. has described in *Gleanings*, I will give my experiments for the past three winters.

I cannot refrain from expressing my surprise, that there is so great a difference in the results of the two caves, and I could hardly believe what Mr. D. tells us (if his observing abilities did not rank among the best of our scientific writers), namely, he had *no ventilation in his bee-cave all winter*; though there are many queer things in bee-keeping we do not yet understand.

Mr. D's cave is 26x6½ feet, 7 feet high to the plates, and contains 1,092 cubic feet; mine is 19x10 feet, 7 feet high, and contains 1,330 cubic feet; but if he would reckon the space above the plates, to the top of the roof, the difference in room would be still greater between the two caves.

My cave-entrance has three doors, and his has four; I have one underground ventilator (100 feet long, 4 feet under ground, made of 6-inch tiling), and one at each gable end, 4 inches inside, and 8 feet high, of boards nailed together. As I understand it, Mr. D's cave has ventilators, but he has them shut up during the winter; this latter, with my greater capacity of cave, and that I keep from 100 to 135 colonies, and Mr. D. only about 50 colonies in the cave, is the only difference of consequence between our caves; yet his bees keep quiet and winter well, while mine would suffocate—die, in less than one week's time, from *gasses*, if I would close the ventilators tight.

My experiments are as follows: Two years ago on Nov. 17, I put 100 colonies into the cave, and shut up the lower ventilator after the bees were all quiet; the temperature kept steadily at 42° above zero, until the week of Christmas, when a storm came on, with 20° below. I then shut up the two upper ventilators; the wind blew stronger and colder for four days, and it reached a temperature of 35° below in the evening of the fourth day. I went (or rather tried to go) into the cave, but every time I opened the inner door, my lighted candle went out. The third time I got in far enough with the light to see the register of the thermometer, which indicated 42° above zero by the time my light was nearly out; but thinking of gasses, I held it up high, but it did no good, so I lowered it, when I was at once in the dark. How is this explained, that gasses are heavy or light, low or high, on the bottom or on the top?

The time I was in the cave while the light burned, was not more than about half a minute. My head commenced to "swim," and I could hardly find the door, but I got out safely. Some of the bees were quite noisy. I at once opened all the ventilators (think of it, 35° below zero outside! How is this for a sudden change?) and in one hour's time the gasses had escaped and the bees were quiet. I then closed the lower, and partly shut the upper ventilators, but watched them closely afterwards.

Last winter we had just about another such a storm, when I tried the same thing, but went into the cave on the third day after closing the ventilators, and found the same conditions as the year before, but in a weaker degree, as the time the ventilators were closed was shorter; this time I did not open the lower, but opened the upper ventilators, and have left them open ever since, and for the past nine days it has been 35° below zero (on two mornings, Jan. 15 and 16, it was 50° below zero); in the cave it keeps steadily at 45° above zero.

Almost all experienced bee-keepers, and other scientific men, would theorize that with two 4-inch holes in a bee-repository, with a temperature of 50° below zero outside, it would surely freeze considerably inside; but it must be remembered that the tubes are only 8 feet high, from the inside top of the gabel end, and will create a great draft in the cave, especially when the outer air is much colder than the inner. But here comes in my natural automatic arrangement, which is as follows:

In moderate weather the upper ventilators furnish pure air enough to keep the cave at about 42° above zero; when the weather gets colder, white frost accumulates in and on top of the tubes, which makes the holes smaller; at zero weather the holes close to about 2 inches, and get smaller as the cold increases. At 10° below zero, a volcano-like cone forms on top of the tubes, through which a steady volume of steam rises four or five feet high, which is quite a curiosity to behold at sunrise.

At present (Jan. 18) there is a pyramid of ice one foot high on top of the tubes, closed solid; but next to the base of it the frost and ice is porous, through which ventilation goes on, and when the weather becomes warmer the frost melts gradually, which regulates it better than I possibly can. I have not done the least thing in regard to regulating the ventilators, since a year ago the forepart of this month, or since the second attack of the gasses in the cave, and my bees seems to enjoy it. By this, I feel that nature would do a great deal more for us, if we would only give it a chance, and direct our minds to aid it more closely.

The lower cave-ventilator is used only in the fall and spring, when it is too warm in the cave; 45° above zero is as high as my bees will stand it, without getting noisy.

One thing that I do not understand is, that the gasses did not raise the temperature in the cave. Will Prof. Cook, or any others, give us some light on this?

I forgot to mention that with all the gasses and sudden changes of temperature, the bees have wintered with little loss; but I am convinced that they all would die on account of the gasses, if all the ventilators were closed up for one week.

Theilmanton, Minn.

POLLEN.

The Use of Pollen as Food for Bees.

Written for the American Bee Journal
BY PROF. A. J. COOK.

If Mr. Doolittle will faithfully promise never to be guilty of any such "eat and king" absurdity again, I will most cheerfully comply with his request, on page 221.

First, we must have albuminous food or we will soon die. But suppose Mr. Doolittle attempts to live on pure cheese, almost wholly albuminous, and see how his experiment turns out. Dr. Kane was nauseated at the sight of fat at home; but near the North Pole he could take a pint of clear oil with a relish. Bees, like us, must have a variety of food. Again, the relative quantity of each kind will vary with circumstances.

Suppose that Mr. Doolittle should kill one of his chickens, and should open its crop and find corn. How long would it take to convince him that the chicken never ate corn. It is just so if we examine the digestive tube of a bee. We almost always find pollen—just such pollen as we may secure from the pine or other plants and trees. I will show some pollen from a plant and some from the intestine or stomach of a bee at the next North American Bee-Keepers' Convention.

Now, Mr. Doolittle, come and visit me, and I will engage to convince you. Still I would not engage to feed bees extensively on bee-bread, no more than I would feed friend Doolittle on exclusive cheese, should he honor and delight us with a visit.

Bees in summer, or whenever they are breeding and working hard, need much pollen. In winter they need very little, indeed I think they need almost or quite none. I know that Schonfield thinks that they must have pollen, and supposes that they feed upon cast skins and larval excreta from cells. I think that the great German experiment is mistaken. I shall *know* ere another year passes by.

Now that bees live wholly without pollen in winter, is not strange. In hot summer, when we exercise but little, we can live and enjoy life on a diet of exclusive fruit; while hearty food like meat is distasteful. Put us at hard work, and the meat is relished. Add cold winter to the work, and we like the meat fat. So the bee, during the winter quiet, when it is only just active enough to keep the temperature of the hive in the proper condition, eats only honey, and I think that it is the better for it. Hence while bees must have pollen, they must also have honey; either alone would, as an exclusive diet, prove fatal to the bees. Without any honey, they die quickly; without pollen they die as certainly, but not as soon. If inactive and not breeding, the want of pollen is so slight that they take very little, and at times none for weeks or months.

Then, to answer Mr. Doolittle's question, and "get a great name," I will say: You can always get bees to eat pollen by securing the two conditions of activity and breeding. But at the same time they must have an abundance of either honey, or a substitute like syrup. But bees can never be kept on pollen alone.

Agricultural College, Mich.

BEE-NOTES.

Spring Care of Bees—Growing Alsike Clover.

Written for the American Bee Journal
BY J. M. HICKS.

The bee-master at this season of the year should know the exact condition of all his colonies, and especially know that each has plenty of honey and bee-bread to last them until the early spring flowers supply a new crop. Should the bees be destitute of bee-bread, it can be supplied by placing in tin pans or shallow boxes newly-ground rye meal, a short distance from the hive, from which the bees will soon carry to their hives a supply for present use.

I have often made a pool of mud, by throwing on sand with salt and sweetened water, for the purpose of giving the bees a watering place, as it is a well known fact that bees must have plenty of water in the spring, in order to feed and rear their young; hence they use water, bee-bread, and honey as food in rearing early swarms.

It would be well for all who contemplate keeping bees for their own use, or in making a business of it for profit, to purchase a few colonies now, and also get first-class movable-frame hives; and about two weeks before swarming time, the bees, combs and brood should be transferred into the new hives, which should be of such style that you can easily handle and manage your bees profitably. At the same time you can make a proper increase of colonies, *not too many*, but a judicious increase, say an increase of 3 from 2 good, strong colonies, and then work the bees for honey the first year, while you are gaining knowledge in their proper management. This of course depends very much upon the style of frame hive selected.

Alsike Clover for Honey.

The next duty the bee-keeper owes to himself and to the bees, in order to succeed, is to prepare at least a few acres of good pasture for the bees to work on. Alsike clover is the best, which produces many hundreds of pounds of the finest and best honey to the acre, in quantity, not to be excelled by any other honey known to the civilized world. The plant is of a very hardy variety, and not easy *to heave*, as is the red clover, by freezing. It is a perennial, and one of the best of hay-producing clovers. The first crop each year is the seed crop.

It is not too much to say that the hay of the Alsike clover is far ahead of all other varieties for cows giving milk, making the richest and best of butter. It is also grand food for fattening in the winter, and makes the best of pasture for all farm stock in the summer.

Four pounds is a sufficient quantity of seed to sow on one acre of ground; and it should be sown on oats, wheat or rye ground, as soon as it becomes dry enough to crack in the spring. I have had about 20 years' experience in the management of Alsike clover crops, and I have found that it will flourish well on almost all the soils in this country, the damp, wet lands seeming to be well adapted to its nature and growth. All the common bees, as well as the Italians, work on the Alsike bloom, and do well on it.

Battle Ground, Ind.

NATURE'S WAY.

Management of Bees on Natural Principles.

Written for the American Bee Journal
BY J. E. POND.

In his article on page 168, Mr. W. S. Vandruff says: "I suppose I will depart considerably from the present way of managing bees, etc.," and then states, in substance, that heretofore bee-keepers have been all wrong in their methods, and that he alone has discouraged the true means of success, viz., "Nature's way." He further says: "This article may bring forth criticisms; I cannot expect much else, as I am attacking a system in general use, etc."

Now I do not wish to criticise any one unjustly, but when a wholesale attack of this kind is made, and that, too, backed up by nothing but vague assertions, and without offering any remedy, or intimating any points connected with his wonderful discovery, I feel that I for one am entitled (before admitting Mr. Vandruff to have done

what he claims), to ask a few pertinent questions, viz: Who is Mr. Vandruff? How long, and to what extent, has he kept bees? What experiments has he made, and what way and manner has he verified his new (?) discoveries?

I am aware that there is much yet to be learned in regard to the science of bee-culture; that we perhaps are yet far from knowing all the hidden mysteries of nature as applied to the *Apis*—still I do believe that something has been learned in the past, and that it is a little "cheeky," to say the least, on the part of an obscure man, to make assertions of a nature such as are contained in the article, in regard to those, who, right or wrong, have given us the benefit of their experience; and particularly so, when the author does not even give us a hint as to his own experiments.

Judging from the general tenor of Mr. Vandruff's article, I think that he has read a few works on bee-keeping, but none of recent date; "that he has used several kinds of hives," but that he "knows all of about all kinds of hives in use," without using them, is on *par* with his condemning the use of queen-excluders without having used them at all. He states a number of truisms in the article, but none that are not commonly known to the veriest novice in the business.

I am looking with impatience for a full description of "Nature's way;" and if upon trial it shall be found to be *the* way, no one will more readily accept it than myself.

North Attleboro, Mass.

PROTECTION

Is Wanted Against the Adulteration of Honey.

Written for the American Bee Journal
BY DR. WM. LEERS.

Mr. A. I. Root referred (according to the report of the New York Convention, on page 106) to a statement of the State Chemist of Ohio, that it was difficult "to tell when honey is adulterated." This deserves an explanation.

I think Mr. Root, as well as the State Chemist, are mistaken about the signification of the term "adulterated" in connection with honey, and trade in general, confounding "adulterated" with *impurity!* Nearly all drugs as made in the factories, and all natural products sold in the stores, contain impurities; but if such impurities are not mixed for a fraudulent purpose, no notice is taken of it.

For an example: The immense quantities of acids employed in the arts are all more or less *impure*, but no one would call them *adulterated!* Commercial sulphate of iron (green vitriol), as sold in the stores, may contain 10 per cent. of impurities (ordinarily more), is styled *impure*. It is made so by the manufacturing process, and purifying it so as to render it "chemically pure," would be too costly, and would not improve it for the ordinary use in arts. On the contrary, if baking soda contains 5 per cent. of clay, it is properly called *adulterated*—the clay is mixed to fraudulently deceive the one who may be using it.

This applied to the honey-trade, would not make it an "adulerated" article, if bees should gather glucose, molasses, or any other sweet, occasionally found (as they sometimes do in times of starvation, or in the spring, if empty barrels are within their reach); or if strained honey is not as pure as extracted; this would simply be an impurity! If such, or any other contamination should happen, in a small degree, it may be somewhat difficult for a non-chemist to detect it, but to an experienced chemist it would not be difficult!

But such cases do not disturb bee-keepers. Their complaints are made against the manufacturing of trash (glucose with or without a small amount of cheap honey, and other drugs, under the name of "honey") at prices with which the producers of genuine honey cannot compete! This is where the State Chemist is wrong, or Mr. Root mistaken.

The main question for the manufacturers is: Does it pay? Now the addition of a small amount of glucose, say 5, or even 10 per cent. in reality would not pay, and consequently, honey with so insignificant an adulteration, will not come into the market. It must be mixed in such proportion that the detection even for a less experienced man is easy. Honey contaminated with glucose, or other impurities, in so small proportion as to make the detection difficult, would not be called adulterated, "but impure," or of a poor quality!

That, as Mr. Root says, bees "gather every variety of honey," is correct; but that they gather a variety, which, by the chemist, may be declared "adulterated," will seldom if ever happen. But suppose they did, the producer would be in a similar position to a farmer who had (without his fault) in his rye or wheat so much mother-corn, or in his clover seed so much dodder-seed, that he could not find a buyer; or of a merchant, who is condemned by public authority for selling merchandise, which (without his fault) had become unwholesome.

I will say to Mr. Aspinwall, that glucose in honey of a far smaller percentage than 5 per cent. can, by a non-chemist, be detected, not only with the polariscope, but also by easier methods. And commercial glucose also can easily be detected at all times. In other countries (England, Germany, Switzerland, etc.) it is not difficult, why should it be impossible in this? A law against adulteration of honey does not exist in Illinois, as far as noxious substances are concerned.

Time for Action.

In the past year, when honey was so cheap, was the proper moment for bee-keepers to have taken steps to protect their business. The universal adulteration of all human commodities had alarmed the public, the low price of honey stopped its adulteration, because it did not pay, and so strong efforts of the adulterators was not probable. The passing a law similar to that of New Jersey by the Legislature (or even by Congress) would not have found insurmountable obstacles—the demands of the public going in such direction, and no great interests opposing. For the law against the adulteration of milk and of butter, the chances were far less favorable.

Mr. Dadant, to whom I proposed to begin an action, said that the time was not favorable; State's rights were an obstacle, and adulteration had nearly entirely ceased. But State's rights will not soon be abrogated, and as soon as the price of honey has improved a little, adulteration will doubtless flourish again.

The prohibition of adulterated honey is a vital question for bee-keepers, and connected businesses. Important investments are made in bee-keeping, factories of apiarian supplies, periodicals, etc. What will be their fate if one bee-keeper after another abandons this unpaying business? Then, comb foundation mills may be converted into wash-wringers, and bee-hives into hen-coops, while people may eat unwholesome trash, and pure honey dries up in the fields!

Other industries work for protection, and have succeeded. Why are bee-keepers so easy? We do not want heavy duties, patents, appropriations for premiums or other support—we want protection against frauds upon the public! We need no "trusts" or "corners." Manufacturers may sell their trash as cheap or as dear as they can—all that we demand is that it be sold to the public for what it is! The protection of the public against fraud, will also be our protection.

Sigel, Ills.

[Editorial remarks on this subject may be found on page 259.—Ed.]

HONEY-PLANTS.

The Season of 1887—Some Bee-Questions.

Written for the American Bee Journal
BY FRED. SIEVERT.

I commenced last spring with 5 colonies, increased them to 10, by natural swarming, and obtained no honey. Owing to the great drouth in this locality, the most of the bee-keepers had to feed their bees.

The principal honey-plants in this part of Indiana are linden and white clover, and the latter produced no nectar. There was but little fall honey secured from golden-rod and boneset. The linden trees in this vicinity have been consideraly cut out, and it will prove quite serious to bee-keeping. The bee-keepers are encouraging the farmers to sow Alsike clover, which will be beneficial to the farmers as well as to bee-keepers.

I fed my 10 colonies 130 pounds of sugar syrup, according to the Heddon method, and put them into the cellar on Nov. 19, 1887, and I think they were put into winter quarters in fine condition. They have been confined for 126 days, and are in good condition now. The temperature in the cellar ranged from 40° to 48° Fahr., and the bees seemed to be the most quiet at 40°. I am favorably impressed with Mr. Tyrrel's article on page 25, referring to proper temperature of a bee-cellar, hence I think that from 30° to 40° is the proper temperature for a bee-cellar or cave.

The indications for white clover are good, if it has not been winter-killed. There are plenty of flowers in the timber localities, and everything promises well for another season.

The BEE JOURNAL is a welcome visitor at our fireside, and the information which I have received from it is of great advantage to me; indeed I cannot see how I could do without it.

I want to sow some Alsike clover. 1. Where will it produce the largest crop, on high, clay, or sandy land, or on low, loamy soil?

2. What temperature is preferable to look at bees in the spring?

3. Is it essential to feed sugar syrup in the spring for stimulating brood-rearing?

4. Is it preferable to contract the brood-chamber to get the bees into the sections?

5. Will it prevent the old colony from swarming twice, by hiving the young swarm on the old colony's stand?

Chesterton, Ind., March 24, 1888.

[1. A moist soil is better than dry, sandy land for Alsike.

2. The temperature of the centre of the cluster averages 70° Fahr., and if the temperature outside is less than that, the hives should not be opened unless in an emergency.

3. It is not essential, unless they are short of stores, but it is sometimes *desirable* to feed them sugar syrup to stimulate brood-rearing.

4. Yes, if the colonies are weak.

5. Not invariably.—ED.]

STATISTICS.

Agricultural Statistics from the Crop Reporters.

Written for the American Bee Journal
BY C. L. SWEET.

As it is requested that those bee-keepers who are willing to report as to the condition of the bees and yield of honey in each county, I will agree to be one of them for Cook county, Ills.

I am one of the crop reporters for Cook county, and have been such for the past nine years. For the past two or three years, the blanks furnished to the correspondents have contained the question to be answered on the first day of May, as to the "condition of honey-bees;" and of course it was answered by all the crop reporters in Illinois, according to their best information. I had wintered about 100 colonies last year, and they were in good, average condition; so I marked that question 100. Now I suppose the blanks for this year will contain the same question.

Suppose the committee on bee-keeping statistics ask Mr. Charles L. Mills, of Springfield, Ills., to have printed in the blanks such questions as to the yield of honey, as they may desire to be answered on the first day of August and October. The number of colonies of bees and pounds of honey produced last year will, I suppose, be taken as usual by the assessors. The committee will then have made a commencement as far as Illinois is concerned.

The statistics taken by the township or county assessors in the several States, is also used by the Department of Agriculture at Washington, as a foundation upon which to estimate the amount produced; the number of acres being given for the year before, and the reporters answering from month to month, as the season advances, for the current year. For bees, the number of colonies, and pounds of honey and wax, forms the foundation.

The United States only takes the census including agricultural statistics, once in ten years, while the different States take the agricultural part in some way every year. It may be that all the committee will have to do is, to furnish, as far as they can, the names of the reporters, and suggest the questions which they want answered, to the Washington Department, and they will take care of it afterwards. That is what they are there for.

The secretaries of the State Boards can be notified from there, what is wanted. They know who the secretaries are. Of course, if the statistics are taken by Government machinery, and at Government expense, it will be for publication. The "light" obtained will go on the house-top. I am on that side of this question. It will be for the consumer as well as the producer.

Glenwood, Ills.

WINTERING BEES.

Bees Flying in the Sunshine in Winter.

Written for the American Bee Journal
BY E. L. HOLDEN.

On page 788, of the BEE JOURNAL for 1887, Mr. J. A. Buchanan has an article on packing bees for winter, in which he says: "Bees in thin board hives come through in better condition than those in hives that are packed;" and gives his reason for it, which is, that the sun shining upon the thin hive warms up the bees and causes them to come out and take a cleansing flight.

I have experience in wintering bees for more than half a century, and I early learned that the sun often warms up the bees, so that they will come out for a flight, when the air is much too cold for them; and the consequence was, that hundreds of them fell to the ground, and never returned to the hives. In such cases, the bees in the hives become very much reduced in numbers, and if many such days occur the chances are that the colony will perish.

Last fall there was a gentleman from Rhode Island at my place, who wanted to look over my bees, and inquired how I wintered them without losing any. He said that he lost his entire apiary of bees last winter, by their coming out on sunny days, and being chilled by the cold air. His bees were in thin hives, and not packed. I showed him my double-walled hives, and told him that I filled the spaces with sawdust.

Who has not seen snow on the roofs of buildings melted by the sun, when the general temperature was much below freezing? I have seen it melt on a roof facing the south, when the ther-

mometer indicated 20° below freezing. So fatal is the sun when shining directly on the hives, that I early learned to use wide boards, set up to shade the hives from the sun; and when there is snow on the ground I often scatter straw around, so the bees may fall on that, and not be chilled by the snow; then some of them will get back into the hives.

I do not know the lowest temperature at which a bee can fly with safety. It must be considerably over 40°, for a bee will perish at a temperature of 40°. Bees will sometimes rise from a hard crust of snow, but when it is new and soft, I have seldom seen one rise from it. Such has been my experience in this latitude; how it is in West Virginia, I do not know.

North Clarendon, Vt.

HONEY-BOARDS.

How they Should be Made and Used.

Written for the American Bee Journal
BY JAMES HEDDON.

In Dr. Tinker's reply to Query 521, he advises placing between the slats of a honey-board, queen-excluding metal containing two rows of queen-excluding passages. Let us investigate this theory by the light of what is well known to those who can correctly be called practical honey-producers.

In the first place the Doctor does not say whether he is using a Heddon honey-board (that is, one containing either, or both, the bee-space and break-joint principle)—I would rather use no honey-board, than one with either of these features left out. If the bee-space is not used, the tiering method is impracticable. If the break-joint feature is omitted, brace-combs will bother greatly between the top surface of the honey-board and the bottoms of the wide-frames, or sections, next to it, as the case may be.

Suppose the slats of the Doctor's honey-board are placed upon the break-joint principle. If they are that distance apart which just lets in one row of perforations (which, say is ¼ to ⅜ of an inch), there will be no trouble with brace-combs between so narrow a strip of zinc and surplus cases above.

But one now asks, "Why, trouble with combs there?" I will answer from experience. All know that to have the least brace-combs in a bee-space, it should not be deeper than ⅜ of an inch, scant, or 5-16 of an inch. As the zinc is ¼ of an inch further away than the general slat-surface of the honey-board, if this further-away surface is wider than ⅜ of an inch, in go the brace-combs—the very things that we use the honey-board to prevent. To be sure, the zinc might be tacked to the upper surface of the slats, but in that case the quantity of brace-combs below (that is, between the lower surface of the honey-board and the top-bars of the brood-frames) will be vastly multiplied—would be much more than are now found between the top-bars and surplus-cases, where no honey-board is used. While it is true that brace-combs below the honey-board are not to be compared with those above, as for the trouble they make, still though it be a fact that the honey-board does not, and was never devised to lessen the brace-comb building below it, yet it is a step backward to have them increased *there*.

Again, to have the slats far enough apart to admit of a strip of zinc so wide as to contain two rows of perforations, is to make the honey-board weaker; and last, but most of all, eight rows lengthwise of the Langstroth hive is ample to give a passage-way to more than twice as many workers as any Langstroth hive ever contained. The last I know to be a fact, from repeated tests made in different years in both of my apiaries. I made these on a large scale, and I am proud to go on record as controverting the fallacy of want of passage-room. If it was desirable, enough testimonials to fill a whole bee-paper could be obtained from those who can corroborate this statement, from actual experience.

The pride and pleasure which I take in placing before my fellow bee-keepers improvements in hives, is all the time marred by the proposed alterations by those who do not comprehend the things which they are imitating and proposing to improve. Certainly it makes one feel badly to see wholly original, worthless inventions setting forth claims of superiority; but when we find our own inventions altered and made impracticable on account of the alterations, then our pride as well as interest in the success of our brothers, is aroused.

I shall consider it a great favor if, in the future, those who claim to test any of my inventions, will not presume beforehand that they know more about it than I do; but be sure that they use them exactly as I make them; when, after proper experimenting on a comprehensive scale, their reports will be gladly received by all.

Surely the reports published on page 253, of those who have my New Hive in practical use, give sufficient reply to the criticisms by Messrs. Hambaugh and Dadant, on page 199. Those reports also *settle* the question of its merits, and hereafter it will only be necessary to discuss the best way to use it.

Dowagiac, Mich.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Apr. 21.–	Marshall Co., at Marshalltown, Iowa. J. W. Sanders, Sec., LeGrande, Iowa,
Apr. 21.–	Central Michigan, at Lansing, Mich. W. A. Barnes, Sec., DeWitt, Mich.
Apr. 21.–	Eastern Indiana, at Richmond, Ind. M. G. Reynolds, Sec., Williamsburg, Ind.
Apr. 24.–	Des Moines County, at Burlington, Iowa. John Nau, Sec., Middletown, Iowa.
Apr. 27.–	Darke County, at Ansonia, O. J. A. Roe, Sec., Union City, Ind.
May 2, 3.–	Texas State, at Greenville, Tex. B. F. Carroll, Sec., Blooming Grove, Tex.
May 3.–	Progressive, at Bainbridge Center, Ohio. Miss Dema Bennett Sec., Bedford, O.
May 5.–	Susquehanna County, at New Milford, Pa. H. M. Seeley, Sec., Harford, Pa.
May 7.–	Welland County, at Welland, Ont. J. F. Dunn, Sec., Ridgeway, Ont.
May 8.–	Keystone, at Scranton, Pa. Arthur A. Davis, Sec., Clark's Green, Pa.
May 8.–	Cortland Union, at Cortland, N. Y. W. H. Beach, Sec., Cortland, N. Y.
May 19.–	Nashua, at Nashua, Iowa. H. L. Rouse, Sec. Ionia, Iowa.
May 22.–	N. W. Ills. & S. W. Wis., at Rockton, Ills. D. A. Fuller, Sec., Cherry Valley, Ills.
May 31.–	Wis. Lake Shore Center, at Kiel, Wis. Ferd. Zastrow, Sec., Millhome, Wis.
Aug. 14.–	Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Storing Honey and Pollen.—B. M. Faris, Fort Mill, S. C., on March 28, 1888, says:

Bees are all in good condition. I wintered 18 colonies on the summer stands in Georgia hives, with no loss. Bees stored honey and pollen in February from alder, maple and elm. Peaches and plums are in full bloom now.

[Some of the flowers were enclosed. It is refreshing to know that our fruit trees will soon commence to bloom.—Ed.]

Colonies Strong in Bees.—John F. Dipman, Fremont, O., on April 10, 1888, says:

I have been examining my bees for the last few days, and I find that they have wintered well out-of-doors. I lost only one colony out of 73. They are all strong in bees except 4 colonies.

Not a Colony Lost in Two Years.—Ferd. Zastrow, Millhome, Wis., on April 9, 1888, writes thus:

The past winter has been the most severe for many years. I have lived here for 23 years, but I have not seen one like it. The thermometer indicated from 1° to 26° below zero on 25 different days, and on a good many days at zero and a few degrees above. Bees had no regular flight from Nov. 23, 1887, to April 3, 1888; but the long confinement and the pinching cold-snaps did not injure bees properly packed in chaff on the summer stands, while I have heard a good many complaints about colonies kept in the cellar. What I call properly packed in chaff, I will describe in a future letter. I have not lost a colony in the last two years, while every year before, as long as I have kept bees, was recorded as disastrous.

Good Results in Wintering.—Samnel Cnshman, Pawtucket, R. I., on April 6, 1888, writes:

My bees have come through in good condition, although I fed them for winter as late as Oct. 1. Out of 23 colonies in the home apiary, 3 have died, 2 of starvation. These were also made-up colonies from driven bees. In the Attleboro Apiary, 2 colonies out of 14 have died, and in the other apiaries none have died. This I call pretty good. All are strong. I shall test the "Simmins' plan" more thoronghly the coming season.

Colonies Generally Strong.—R. R. Murphy, Garden Plain, Ills., on April 9, 1888, writes:

I took my bees out of the bee-house last week, and found three dead colonies, one being starved; one was to all appearances queenless last fall, and the other was one that I transferred from a box-hive in November to extra combs from other hives. I have found two other colonies queenless out of 62 put in last fall. The colonies are generally strong in bees, and were breeding rapidly when taken out. There are heavy losses of bees where they were left outdoors without protection in this locality.

Bringing in Pollen.—S. A. Shuck, Liverpool, Ills., on April 17, 1888, writes:

Bees have wintered reasonably well in this locality. I placed 119 colonies in my bee-cellar, 5 colonies for a neighbor, and 113 of my own. They were all alive when put out some two weeks ago. The weather turned cold and stormy soon after the bees were put out. One colony starved during the bad weather, four were queenless and too weak to survive, and one nucleus swarmed out. A few others are quite weak. The mercury rose to 80° in the shade to-day. The bees were at work with a will, bringing in pollen from soft maple.

Hard Winter for Bees.—John Bauernfeind, Menasha, Wis., on April 5, 1888, writes:

The past winter was a very hard one for bees in this locality. My colonies were light last fall, and a long and severe winter was more than they could stand when short of stores. I began the winter with 67 colonies, but I have already lost 20 colonies, the most of them having starved. There is still 2 feet of snow on the ground, but to-day it looks spring-like, the snow is disappearing fast, and I may yet save one-half of my bees.

The Fertility of Queens.—John Andrews, Patten's Mills, N. Y., on April 2, 1888, writes:

As I have been somewhat disappointed in years past in the fertility of queens that I obtained from (what was considered) reliable breeders, most of which were obtained in September, I have come to the conclusion that late-reared queens are of not much value to me. The most of these queens were obtained simply for experiment, holding them over for the next year's observation. Now and then one has been up to the average of the bees in the yard in activity, but four out of five have been below the average. For years I have bred my own queens, and in this I have noticed that the late-bred queens did not produce active colonies, as a rule; and now the question is, should a bee-keeper breed queens after the honey-flow had ceased, from which the natural honey-supply comes? I know that the breeders will say, "We feed to stimulate colonies that rear our queens." But can that produce as good results as come from a good honey-flow from the flowers, in the season of a natural swarming impulse? This question (to me) would be of some importance, if I wished to buy queens at the present time; and it will be somewhat gratifying to me, and perhaps beneficial to many, to have this question discussed through the AMERICAN BEE JOURNAL. My experience may not be the same as that of others.

Expecting a Good Season.—C. B. Thompson, Knoxville, Iowa, on April 2, 1888, writes:

My colonies that have wintered are very strong. I put 46 colonies into a cave, and took out 37 colonies in good condition. I am looking for a good honey year. Bees have wintered poorly; those bee-keepers that wintered their bees on the summer stands, and those that wintered them in cellars, have lost about the same per cent. as I did.

Freaks of Queens.—C. Weeks, of Clifton, Tenn., writes:

Some answers to Query 506, state that 2 queens never leave the parent hive with the first swarm. I once had a prime swarm issue with the old wing-clipped queen and 2 young queens. In the spring of 1886 I found 2 laying queens that had wintered in one hive. There was no mistake about it, as it was too early for drone-brood to be even capped in any hive. About one month later, when I next opened the hive, there was but one queen to be found.

[Yours are unusual cases—those answers contemplated the general practice in a normal condition.—ED.]

Chaff Hives for Wintering.—Geo. H. Kirkpatrick, New Paris, Ohio, on March 28, 1888, writes:

I am wintering my bees on the summer stands, all in single-walled hives, crated, and packed in chaff. About 50 per cent. of my colonies are in chaff hives. I have used the single-story chaff hive for five years successfully. My bees had a fine flight on March 17 and 18. I examined and found all the colonies breeding. Bees in this part of the country, as far as heard from, are doing well, and bee-keepers are feeling better.

Honey for Bees in Winter.—Fayette Lee, Cokato, Minn., on April 8, 1888, writes:

The colony that I was wintering on nothing but honey was defunct on March 10. They had the worst kind of diarrhea, and were full of a dirty-colored water. They did not have 5 cells of pollen in the hive last fall. They had 15 pounds of the best kind of fall honey, and it was not capped over. They had no upward ventilation. They ate about 7 pounds of honey before dying, and I am now sure that dampness is the cause of bee-diarrhea.

Another thing that I have found out is, when the ground does not freeze, the cellar is damp, and so are the bees. This is the reason that they do not winter the same. The temperature of my cellar has been 45° all winter, and only for a little while last fall it was 50°. I wish every one would see if they do not find the lower row of hives very damp, and the bees sick, with the entrance to the hive all daubed from the diarrhea. I expect to lose 15 or 20 colonies out of 96. The snow is one foot deep yet. I have taken 10 colonies from the cellar, and they are flying nicely. I expect to take the rest out this week.

Planting for Honey.—Wm. A. Ridenour, Elida, O., on April 2, 1888, says:

I commenced the season of 1887 with 7 colonies, and my crop was 225 pounds of comb honey in one-pound sections, from white clover and linden, although the drouth caused a poor honey crop. I bought 5 colonies in the fall, which made 12 colonies; I packed them on the summer stands, and they have wintered all right. On March 31 and April 1, they carried in pollen for the first time this year. I have 7 acres of Alsike clover that will bloom this summer. In 1885 I planted 60 linden trees from 1 to 2 inches in diameter, and they bloomed the second year after being planted.

Drone-Comb and Swarming.—James Irwin, Columbus Grove, O., on April 2, 1888, writes:

I must say that my bees have wintered extremely well this winter. I wintered them on the summer stands. They have been taking in pollen now for two or three days. The outlook for a good honey season is very promising. I noticed from some of my colonies that there were a good many young bees flying. Will the absence of drone-comb in a hive prevent swarming?

[The absence of drone-comb in a hive will not always prevent swarming—to give the bees extra room is generally more effectual.—ED.]

Old-Fogy Bee-Keepers.—Mr. R. A. Rummel, Butler, Ind., on April 2, 1888, says:

Bees have wintered well, so far as I have heard. I asked one of my neighbors who keeps bees, to take the BEE JOURNAL. He said that he could not learn anything from it; that he knew more about bees now, than any of those who write for it. He generally has about 7 colonies in the spring, increases them to about 35 or 40 till fall, and all that are strong enough to draw their last breath, die before spring. He never obtains much honey from them.

[That is just the way of one-tenth of the world. Surely "When ignorance is bliss, 'tis folly to be wise."—ED.]

Putting Bees out too Early.—A. B. Atwater, Marion, Iowa, on April 7, 1888, writes:

I have not yet taken my bees out of the cellar, as I consider it too early. I took them out last year before the snow was off the ground, and I lost 50 colonies out of 80. I do not think that I will do so again. The weather is nice and warm. I did take one colony out about a week ago, and I will have to feed it to keep it from starving. My bees stored scarcely any honey last year.

Still in Winter Quarters.—Wm. Dyer, Hastings, Minn., on April 10, 1888, says:

My bees are still in winter quarters. There is too much snow on the ground yet, to put them out. They have been in the cellar about 140 days, and are still as quiet as they were the first week after being put in.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Your Full Address, plainly written, is very essential in order to avoid mistakes and delays.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

The Novelist—A Novel Enterprise.—Novel in name, form, purpose and method is *The Novelist*, Alden's new weekly magazine of American fiction.

It is certainly handy in form, beautiful in dress, excellent in all mechanical qualities, and low in price; well suited in all respects to meet the wants of the intelligent millions who are capable of appreciating "the best."

Terms, $1.00 a year, at which rate it will give over 2,500 pages, equal to from eight to twelve ordinary American dollar novels.

The stories will follow successively, one at a time, a novel of ordinary length, thus being completed in from four to eight weeks. If one story does not please, you will not have long to wait for the next. For a ten-cent subscription (if you don't wish to enter for all at $1.00), you will receive the first chapters of every story published during the year, which you can then order separately, if you wish. A specimen copy of *The Novelist* will be sent free on request. Address, John B. Alden, Publisher, 393 Pearl St., New York; P. O. Box 1227.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

CONVENTION NOTICES.

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. FULLER, *Sec.*

☞ The spring meeting of the Wisconsin Lake Shore Center Bee-Keepers' Association will be held on May 31, 1888, in Mueller's Hall, at Kiel, Wis.
FERD. ZASTROW, *Sec.*

☞ The Keystone Bee-Keepers' Association will hold its sixth annual meeting in the Court House at Scranton, Pa., on Tuesday, May 8, 1888, at 10 a.m. All bee-keepers are invited. A. A. DAVIS, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The semi-annual meeting of the Progressive Bee-Keepers' Association will be held in the Sons of Temperance Hall at Bainbridge Centre, O., on Thursday, May 3, 1888. Parties wishing conveyance from Geauga-Lake Station, on the Erie railroad 3 miles distant, will please notify Mr. L. H. Brown, Bissels, Geauga Co., O., so that arrangements can be made for the same. All interested are invited.
MISS DEMA BENNETT, *Sec.*

Honey and Beeswax Market.

DETROIT.

HONEY.—Best white in 1-pound sections, 15@16c. Extracted, 9@10c. Little demand and few sales.
BEESWAX.—23@24c.
Apr. 12. M. H. HUNT, Bell Branch, Mich.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull.
BEESWAX.—24c.
Apr. 7. MCCAUL & HILDRETH BROS., 28 & 30 W. Broadway, near Duane St.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections, to 14@15c. for off color and condition; 2-lbs., 14@15c. Dark is slow of sale at almost any price. Extracted, 7@9c., with good supply. Light demand.
BEESWAX.—22@23c.
Mar. 22. R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.
Mar. 19. F.G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI

HONEY.—We quete extracted at 4½@9c. per lb., for which demand is good. Comb boney, 14@17c.—Supply large and demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Mar. 26. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 17@18c.; 2-lbs., 15@16c.; 3-lbs., 14c. Dark and broken not quotable. Extracted, white in kegs and ½-barrels, 8½ to 9c.; in tin and pails, 9½@10c.; dark, ½-barrels and kegs, 5@7c. Market slow.
BEESWAX.—22@25c.
Mar. 10. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Beat white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Mar. 24. BLAKE & RIPLEY, 57 Chatham Street

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 6@7c. Market quiet.
BEESWAX.—18@21c.
Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

Advertisements.

BEES for Sale Cheap.—7 or 8 Colonies, at $4.00 per Colony; or all in one lot at $3.50 each. Address, **MRS. J. F. GALL,**
Cor. Clark St. & Graceland Ave.,
16Alt LAKE VIEW, Cook Co., ILLS.

FULL COLONIES

of the **Best HYBRIDS** for Sale—1888.
Address, **I. R. HADFIELD,**
16A2t WAUKESHA, WIS.
Mention the American Bee Journal.

THOSE BLASTED BEES!

MAKE your own Queen-Excluding Zincs. Use my **Perforating Stamp.** Saves its cost in less than one hour. This tool cuts out the holes; will also cut tin or light sheet-iron, is made of best English tool steel, ground to right size, and is very durable. You can leave the spaces directly over the frames blank, and perforate between, or otherwise if you wish.
☞ Price, **65 cents,** sent by mail.
Supply dealers wishing to make this tool—write me for outfit. Nothing patented.
Address, **GEO. F. NUSSEL,**
16Atf FARIBAULT, Rice Co., MINN.
Mention the American Bee Journal.

Bee-Hives, Sections, Section-Cases,

Foundation & other Apiarian Supplies.

☞ **Our Section Folder should be in the hands of every Honey-Producer.**

Send for our new Catalogue with a description of

THE "SUCCESS HIVE,"

which is fast gaining the favor of many bee-men.

ALBINO QUEENS and BEES for 1888.

IT should be remembered that we are also Head-Quarters for the **"Albino Queens."** We also breed **Select Italians.**
Address, **S. VALENTINE & SONS,**
16A1t HAGERSTOWN, Wash. Co., MD.

G. B. LEWIS & CO.

WE make the best Bee-Hives, the best Sections, the best Shipping-Crates, the best Frames, etc., etc.
☞ We sell them at the Lowest Prices.—Write for free Illustrated Catalogue.
G. B. LEWIS & CO.,
37Atf WATERTOWN WIS.
Mention the American Bee Journal.

WILL SEND C. O. D.

ITALIANS on Langstroth frames—two-frame Nucleus (no Queen) $1.50; 3-frame, $2.00. BEES per lb., 75 cts. Tested Queens, $2.00; Untested, in May, $1.00. To insure shipment of Bees by express, C. O. D., sufficient money should be sent to at least pay all express-charges. No foul brood.
15A4t **H. L. Pangborn, Maquoketa, Iowa.**
Mention the American Bee Journal.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.
Mention the American Bee Journal.

WANTED,

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.
THOS. G. NEWMAN & SON,
923 & 925 West Madison St., - CHICAGO, ILLS.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

100 COLONIES of BEES for Sale. A bargain for any one wanting the entire lot. Write for particulars.
S. A. SHUCK,
16A5t LIVERPOOL, ILLS.

2-OUNCE HONEY SECTION.

SEND for Circular of the Shaving System for small Sections. Invented and brought to practical perfection by
WALTER HARMER,
16Atf 411 West 8th St., MANISTEE, MICH.
Mention the American Bee Journal.

Extra Thin FOUNDATION

In 25-Pound Boxes.

WE CAN now furnish the **Van Deusen** EXTRA-THIN Flat-Bottom FOUNDATION put up in 25-lb. Boxes, in sheets 16½x28 inches, at **$12.50** per box. **12 ft.** to the lb.
☞ The above is a **special offer,** and is a **Bargain** to all who can use that quantity.
All orders for any other quantity than exactly 25 lbs. (or its multiple) will be filled at the regular price—**60 cents** per lb.
THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.

British Bee Journal

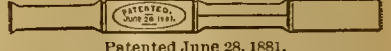
AND BEE-KEEPERS' ADVISER,

IS published every week, at **10s. 10d.** per anoum. It contains the very best practical information for the apiarist. It is edited by Thomas Wm. Cowan, F.G.S., F.R.M.S., etc., and published by John Huckle, King's Langley, Herts, England
Mention the American Bee Journal.

J. FORNCROOK & CO.,

MANUFACTURERS OF THE

"BOSS" ONE-PIECE SECTIONS,



Patented June 28, 1881.

WILL furnish you, the coming season, ONE PIECE SECTIONS as cheap as the cheapest.
☞ Write for prices.
Watertown, Wis., Jan. 1, 1888.

☞ Thos. G. Newman & Son, of Chicago, sell the one-piece Sections manufactured by us.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

Muth's Honey Extractor,

Perfection Cold-Blast Smokers,
SQUARE GLASS HONEY-JARS, etc.
For Circulars, apply to
CHARLES F. MUTH & SON,
Cor. Freeman & Central Aves., CINCINNATI, O.
P. S.—Send 10c. for Practical Hints to Bee-Keepers.
Mention the American Bee Journal.

J. C. SAYLES,

MANUFACTURER of and Dealer in Apiarian Supplies. Also Pure Bred
ITALIAN QUEENS AND BEES.
☞ Catalogue free. Send name and address.
13Atf **Hartford, Wisconsin.**
Mention the American Bee Journal.

MINNESOTA AHEAD!

WE are selling **100 All-Wood Langstroth Brood-Frames** for $1.00; and Langstroth HIVES, with Supers, for 55 cts.
☞ Don't order your Supplies for 1888 until you see our Circular.
WM. H. BRIGHT,
10Atf MAZEPPA, MINNESOTA.

Nothing Succeeds Like Success.

HOW I **Produce Comb Honey.** TEN years' Experience. First Thousand sold in four months. By mail, **5 cts. each;** $3.00 per 100. My illustrated Price-List of Supplies for the **Apiary, Bees, Queens, etc.,** FREE.
GEO. E. HILTON,
51Atf FREMONT, MICH.
Mention the American Bee Journal.

☞ May also be obtained at this office.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. April 25, 1888. No. 17.

EDITORIAL BUZZINGS.

Let Fate do her Worst; there are relics of joy,
Bright dreams of the past, she cannot destroy;
They come in the night-time of sorrow and care,
And bring back the features that joy used to wear.
Like the vase, in which roses have once been distilled,
You may break—you may shatter the vase, if you will,
But the scent of the roses will hang round it still.

Do Not take the bees out of cellars until the advent of settled warm weather.

The Appeal on the one-piece section is now before the United States Supreme Court. It was argued on the 13th inst., and a *decision* may be now made any day, by the Court.

Paint your Hives just for the sake of appearance, to which it adds so much. It is best to paint them of light colors, so as not to reflect the sun's rays, and make it "too hot" on the inside.

The Review for April is out, and contains much that is interesting to the craft. In the advertisement on page 281, it was promised to be issued on March 20—it should have said April 20. It was an oversight of the printer.

Has any One yet received any of the Chapman Honey-Plant seed from the Commissioner of Agriculture? A. Fiddes, of Centralia, Ills., complains that he sent for some six weeks ago, and has heard nothing of it yet. Perhaps it is like a good many other things at Washington, very slow work to get matters straightened out. There "red tape" is *the rule!*

Mr. Z. A. Clark, of Arkadelphia, Ark., whose appeal from the persecutions of the Mayor comes up before the Supreme Court in July, is gradually gaining the "upper hand." The Mayor and councilmen were badly defeated in the late election, and Mr. Clark is now sustained by the majority.

The case is docketed for the Supreme Court, and will come off probably at "the time appointed," and witnesses are becoming more numerous in favor of Mr. Clark and his bees. He has a few colonies now in the city, and is unmolested in keeping them there. He contemplates making public exhibitions of bees at the schools, and manipulating them before the classes, and all this with the sanction of the new authorities. This shows that the "persecution" was done maliciously, and without cause. Mr. Clark thus speaks of some new witnesses he intends to use:

A gentleman drove a two-horse team by my apiary last summer, and drove through as large a single "swarm" of Italians as you probably ever saw, and was not molested in the least. (Will he not make a good witness for us?) I saw this with my own eyes.

Two young ladies who have lived by me since my residence here, and often in my apiary, say they were never stung by a bee in their lives! (How will they do for witnesses?) We have others equally as good.

Killing the Moth-Larvæ.—Mr. M. W. Hinkley, of Bowdoinham, Me., in the *Eastern Farmer*, says he has tried sulphur and failed, and thus describes his favorite method:

I have discovered that bee-combs infested with moth-larvæ can be perfectly and safely cleansed by immersing them for a few moments (until the cells are well filled), in a quite strong solution of potash, then quickly and carefully rinsing and drying. Care is necessary in the handling, as the potash has a tendency to soften the comb.

Spiders rarely cause any trouble with bees. Strong colonies are fully able to repel them, should they enter the hive. All webs about the entrance should be brushed away, or bees will be caught and devoured. Some mistake the work of the moth-worms for spider webs.—*Exchange.*

Why Should Bees make the honey dark by traveling over it? This is what a correspondent asks. Prof. Cook says that bees emit a sort of glutinous fluid from their feet, when walking over a plain surface, to help them adhere to it. This is what stains the white cappings, and makes them look dark and soiled.

Breeding.—In an item on page 259, Mr. Hutchinson was said to advise *feeding* for two months previous to the honey harvest. For the last word in the fifth line read *breeding* instead of "feeding," and the item will then correctly convey the views of Mr. Hutchinson.

Swarming Box.—The *American Agriculturist* for May contains the following on the use of a swarming box:

During the swarming season every bee-keeper should provide himself with a "swarming box." This saves an immense amount of labor, besides obviating the damage often committed on valuable fruit trees and vines by cutting and mutilating them in order to detach swarms therefrom. This box may be made 10x14 inches, inside measurement. It should be perforated with many holes, ¾ or 1 inch in diameter; a pole 8 or 10 feet long should be fastened through the centre of the box, so that it may balance. After a swarm has pretty well settled on a branch of a tree, the box may be pushed up into the cluster of bees, when they will ordinarily take to it and occupy it. If they should not do so readily, the box, being open at one end, may be held under the swarm, when, by giving the limb a jar, a portion of the bees become dislodged into the box. The remainder will readily alight on the same, and all may be carried to the stand.

Storing Honey.—Mr. E. Israel, Oak Lawn, Miss., on April 11, 1888, says:

I send you some linden buds and leaves. My bees are storing honey in the sections, and working on white clover, which is in full bloom.

We have an abiding faith that the coming season will be a good one, and reports such as the above confirm our faith—promising prosperity for the bees, after many years of failure.

Strong Colonies to gather the harvest are very necessary. Mr. Dibbern, in the *Plowman*, remarks thus on this subject:

In regard to getting the best yield of choice honey, try to have all your colonies very strong when the honey-flow comes. This is best accomplished by feeding a thin syrup of honey each evening, commencing about six weeks before the expected yield. Give room in the sections as soon as needed to delay swarming as long as possible.

It Pays to be ahead of time in the matter of procuring hives, sections, foundation, etc.; when needed for use is too late to send for them—they should all be at hand then, waiting until wanted.

Feeding Bees in the morning is apt to induce them to commence robbing; feeding during the day is also dangerous during cold spells—for they sometimes become restless, fly out, chill and die.

Attention is Fixed on Germany. One veteran ruler, the Emperor William, has just passed away, and the grave is even now ready to receive his successor. The crown will rest on three heads in a single year. There are elements of deep interest in a reign like that of the Emperor William, whose life covered most of our stirring century. The story can be read in a finely illustrated article in *Frank Leslie's Popular Monthly* for May, which also gives an endless amount of interesting and attractive reading.

GLEANS OF NEWS.

Honey by the Barrel, drawn from trees like maple syrup.—Mr. E. K. Dean, of Amenia Union, N. Y., on April 11, 1888, wrote us as follows:

From time to time I read in the BEE JOURNAL the product of the pen of some who are foolish enough to think that whatever they may say about the "wonderful and mysterious honey-bee" everybody is bound to believe; and strange to say, a great many still continue to regard these industrious insects with the old-time wonder, and are perfectly ignorant of those "mysteries of the hive" (now so well understood by nearly or all subscribers of the BEE JOURNAL)—are ready to accept these fallacies with wonder and open-eyed amazement. I enclose a clipping from a Georgia paper, sent me by a friend, who evidently is astonished at its revelations. I also send his comments on the article, and think you will agree with me in thinking it strange that any one can for one moment credit the veracity of such preposterous statements. Here is his letter:

"This clipping from the Griffin, (Ga.) *News*, is unique in the annals of bee-culture. Of course honey is a natural product. If this account is verifiable, how do you account for it? Would it not be a good thing if a few of these trees could be grafted up here? S. S. LEWIS."

This is the clipping:

After dinner at Mr. Mitchell's we were sitting on his front piazza, smoking, and I discovered some bees going in and out of a knot in one of the large oak trees in front of his dwelling. This tree is known to be over a hundred years old. I learned that several years ago a swarm of bees assembled in that tree as their new home, and they have worked and lived there ever since. After they had been there for three years, the colony became very large and strong, and no attempt had ever been made to rob them of their honey. At last Mr. Mitchell came to the conclusion that the tree must be full of honey, from seeing large numbers of flies and bees around the root of the tree; so he set to work to devise some means to get the honey without cutting the tree down. After applying all the tests known to bee-men, he satisfied himself that the tree was full, and then decided to tap it like a fellow is tapped for dropsy. So he got a faucet and an augur and bored a hole in the tree near the root, and then screwed in the faucet, and to his surprise and great delight a solid stream of pure and elegant honey as clear as crystal gushed forth, and the supply seemed almost inexhaustible. It continued to pour out until he had filled six barrels; and he has drawn each year since that time from three to four barrels of pure strained honey from that old oak tree, and up to this there seems to be no signs of a failure of the supply, as the bees are still a very strong and healthy colony.

The same year that Mr. Mitchell tapped the old oak tree there was a new, thick growth sprung up all around the old oak, of an unusual appearance, having a smooth bark and thick, waxy leaves. One day he pulled off one of the leaves and put it in his mouth, and found it to be very sweet, and upon examining the place from which he had plucked the leaf, he discovered that the plant was bleeding or emitting from the wound a clear, thick-looking juice, which, upon tasting and examination, proved to be honey. He then commenced to nurse the new volunteer growth with the tenderest care and attention, looking after them daily; and as the summer advanced the plants continued to grow, and in the fall he selected and transplanted 300 of them in very rich soil, 30 feet apart, and they grew very rapidly, making a beautiful display with their straight, smooth trunks, and their thick and glossy wax-like leaves. And the grove was seen and admired by all for miles and miles around. Mr. Mitchell's idea was that as large money was made from the sugar maple, by boiling the juice, he ought to make more from a tree that would run pure honey, and he was right. When the trees were four years old in the fall of the year, they were large enough to insert faucets. So he had 300 faucets made to order, and screwed them into the young trees, and the following spring the result was remarkable. Each tree yielded an average of 10 gallons of the richest golden honey; the following year each tree yielded an average of 20 gallons, and now the average is about a barrel to each tree during the year, and the grove continues to grow and flourish, and shows no signs of failing to supply a bountiful yield in the years to come. The quality of the honey is so fine, and the flavor is so delicate, that it always commands the highest prices, and the demand is greater than the supply.

This is only another proof that the "flashy" reporters for the daily press of the country draw heavily upon their imagination in order to cause a sensation, and get up "spicy" articles for a credulous public.

All of the above sensational article is elaborated from the simple fact of some one finding a bee-tree in the woods, and taking from it some broken honey, unfit for the market, and mostly unfit for table use. The idea of drawing honey through a faucet from combs in a bee-tree!! The idea, even, is supremely ridiculous!

Bees and Grapes.—A correspondent from Middle Falls, N. Y., has sent us the following taken from the New York *Sun* of April 4, 1888. It is a question, and reply by the agricultural editor:

> Can you suggest any means, besides bags, to protect grapes from the attacks of bees? The theory that bees do not attack sound grapes is a mistake. Half my crop was destroyed by bees last year.
> WILLIAM N. NELSON, Millwood, Va.

ANSWER.—We do not know of any better way of protecting grapes from the attacks of honey-bees than by enclosing the bunches in paper bags. However, you might try spraying the vines with some liquid that would be offensive to the bees. Try a very weak solution of carbolic acid when you find the bees attacking the fruit. You are certainly right in your statements in regard to bees destroying sound grapes, and while entomologists know that bees will not only attack and destroy sound grapes, but also peaches, quinces, pears, apricots, and many other kinds of fruit, apiarists deny it, and endeavor to show that the bee cannot cut through the skin of such fruits, and that it is only after wasps and hornets have punctured the fruit that the bees attack it and suck out the juices. Langstroth, Quinby, Root, and other noted apiarists scout the idea of honey-bees cutting through the skin of grapes, while entomologists and thousands of practical fruit-growers know it to be a fact.

There is one side, however, of this question which is far too often overlooked, and that is the variableness of the appetite or taste of the bees. One season the bees will attack various kinds of fruits, and daily gorge themselves with their juices as long as any can be found, and the very next season they may not touch fruit of any kind. Whether this variableness is due to some peculiarity of the weather or season, we do not profess to know, but that the bees do take such freaks we have learned from experience. Next season you may not need any paper bags to protect your grapes from the attacks of bees.

Such "wiseacres" as the above editor, persist in asserting that bees attack sound fruit, when repeated assurances from entomologists and professors who have studied the anatomy of bees, and are thoroughly conversant with the subject, most positively deny that they are physically capable of doing so.

Out in California—such ignoramuses raised a howl about bees injuring grapes, and as a result, they sued a bee-keeper for damages, said to be done by his bees. This suit was carried to the Supreme Court, and the bees came out ahead. It was proven at the trial that the bees could not bite into the skin of a grape. A San Diego bee-keeper settled the question in this way, says the San Francisco *Chronicle*:

He took a perfect bunch of grapes, every berry of which was sound and in good order, and suspended it in the middle of a hive of bees for an indefinite time. It remained there several weeks, or perhaps months, and at the expiration of the period was removed in as perfect a condition as when first put in the hive. Thousands of bees had been crawling all over the fruit during that time, only too eager to attack the toothsome juice thereof, but had been unable to satisfy themselves.

Fruit men found that they had been fighting their best friends, and now have given up the persecutions of the innocent bees.

We might quote from scientists, professors, and others to prove that bees are incapable of damaging sound grapes—but of what use is it, when such scribblers as the *Sun* employs, make their bold assertions to the contrary. Verily, "Where ignorance is bliss, 'tis folly to be wise."

City and Country Life.—A correspondent in the British *Bee Journal* has this to say about the difference between life in a city and that in the country:

After our experience of the dense London fog up to noon on the 17th ult., the day after our annual meeting, when gas and electric lights failed to dispel the gloom, and choked almost to suffocation, pitying the gasping Londoners, while contrasting their state of existence with that of our own happy country fraternity, we exclaimed in fullness of heart,—

> "We possess the flowers and trees,
> Modern hives and golden bees;
> Fruit and nectar, both divine,
> We shall reap at harvest time."

And, finding on reaching our quiet country home, with its hive-scattered lawns and shrubberies, that the day had been one of brilliant sunshine, we were more than ever impressed with the truth of the old saying, "God made the country, man made the town."

New Catalogues for 1888 are on our desk, from the following persons:

Charles H. Smith, Pittsfield, Mass.—48 pages—Apiarian Supplies.

S. H. Stockman, East Auburn, Maine—24 pages—Bees, Queens, and Apiarian Supplies.

M. W. Shepherd, Rochester, O.—4 pages—Bees and Queens.

INTERROGATORIES.

[These questions were intended for the Query Department, but to save time and space, one reply is deemed sufficient, and is given by the Editor or some other member of that Department to whom he refers it:]

The Sections for a Beginner.—L. wants to know the following:

What size of sections would you advise a beginner to use?

The most popular sections are those holding a single pound of honey.

Carniolan and Black Bees.—J. B. A., of Stittville, N. Y., asks the following question:

Are Carniolan bees as good for all purposes as the common black bees?

Yes; and some think that they are even superior to the Italians.

Foul-Broody Hives & Frames.—C. A. S., of Connecticut, propounds this question:

Can I have the hives and frames, where bees have had foul brood, cleaned so as to render them safe to use again? If so, how?

Perhaps so; but great care should be taken. Boil them in hot water. We should probably *burn* them all up. That would be safe.

Robber Bees.—H. L. R., asks this question:

If a hive containing capped honey, but no bees, be placed on a stand during the spring, will it be molested by robber bees?

If the entrance is left open, it would be almost sure to be robbed. Such feeding is demoralizing.

Different Kinds of Foundation.—J., of New York, desires the following answered:

1. Is foundation made with a Pelham mill just as good as that made with any other mill, everything else being the same?
2. Is it as acceptable to the bees?

Upon a test it has proven quite as good, and was as readily accepted by the bees.

Making Comb Foundation.—C. W. desires information on the following questions:

1. What causes sheets of wax to crack on the dipping-boards, when the boards have been previously well soaked in water?
2. What will prevent it?
3. What is the best lubricator to prevent the sheets of wax from sticking to the rolls?

1 Either the wax is too hot, or the air too cold.

2. Avoid the above conditions, and have the boards sharp at the edges, so that the wax will first crack *there*.

3. Lye is the best lubricant.

Drawing Out Foundation.—T. O. asks the following question:

Do bees draw the foundation out into cells?

Yes; and they often *thin* the base, to do so.

Arranging Sections in a Case.—J. L. C., of Indiana, asks the following:

1. As there is only a half bee-space, or half an opening in each section, how shall I manage about putting in the first and last rows so that there will be room for the bees to get in and out of the sections next to the sides of the section-case?
2. Shall I put the sections up close to the sides of the case, or leave them away about 3-16 or ¼ of an inch?
3. If so, how is it done so that they will be secure in their places?

Use sections having ⅜ inch openings instead of ¼ inch; then the half of that space at the sides will admit the bees. In the absence of sections with ⅜ inch openings, if your "case" is wide enough, place at the sides wood separators 1-16 inch in width.

Free Trade and Honey.—A correspondent from New York asks the following:

What is your opinion in regard to the effect of free trade (in this country) upon the price of honey?

It might work adversely at the start on low grades, but not so on the best quality. In our business we can compete with any country.

Separators and Moth-Worms.—J. F. Gile, Basswood, Wis., on April 16, 1888, asks these questions:

1. Can I use sections without separators in the supers of the improved Langstroth-Simplicity hive? 2. Are separators necessary in the brood-chamber, if frames are provided with half or full sheets of foundation? 3. What shall I do with my comb honey in case it becomes infested with moth-worms?

1. Yes; if your super is arranged with reference to it.

2. Separators are not intended to be used with brood-frames. Wide frames holding 8 one-pound sections are sometimes placed at the sides of the brood-chamber; in such, separators are necessary.

3. Fumigate it, by putting it in a closed room, and burning sulphur in it. This will kill the moth-worms.

"When we Consider that pure honey is the very essence of flowers and plants, in which, we are told, there is a remedy for every disease, surely we cannot doubt the happy combination of honey as medicine. The Scripture tells us in many passages of the wonderful efficacy of honey as food and medicine. As the treatment of disease becomes more and more rational, so will the value of honey as a medicine become more and more apparent." So says the *Rural Canadian*.

Statistics.—Mr. L. J. Stone, Littleton Common, Mass., on March 23, 1888, writes as follows:

As a volunteer to gather statistics on bees and honey, I offer my services for Middlesex county. There are not many bees kept here, but I have a team and can and will do the work carefully and thoroughly if desired.

It seems to me that the only way that we can get correct statistics is to have some one interested to personally see the different bee-keepers, and fill out the blanks, and not leave or send blanks for them to fill out, for I think that in seven times (if not more) out of ten, they will not fill them out correctly if at all. If we could have two or three in each county to take statistics, we could go and see them with our teams well enough, in this part of the country. Of course if there was but one in a county, so we had to go around on the cars, we ought to have our expenses paid, but that would only be a little. I take the AMERICAN BEE JOURNAL, and I was never better satisfied with a dollar investment in my life.

At first we thought the best way to get the statistics would be through the assessors or Statistical Bureau of each State; but in all probability those gathered by persons interested in the pursuit, are of the most immediate value. We like the plan inaugurated by Mr. Root, in *Gleanings*, for that purpose; of which we gave a summary on page 243. Those obtained through the United States Statistician will go upon record, and be handed down to posterity in the history of the material resources of the country. We fear that they will not be gathered and published soon enough to be available to the producer in regulating the market prices, etc.

A correspondent from Ohio has sent us the regular statistical blank used in that State, and adds:

The assessors in this State are under oath and bond to ascertain the number of colonies of bees, and the number of pounds of honey produced, and I can tell in a few minutes the result in this State. I know what I am talking about, for I am assessor, and have been for the last three years. Of course the result is only approximate. In 1885 there were 79,589 colonies, and 818,060 pounds of honey; in 1886 there were 111,803 colonies, and 2,113,479 pounds of honey. With the proper effort we might get much information through the proper officers in the different States.

Frank Leslie's Sunday Magazine for May is a valuable and interesting number of this favorite family monthly. Both solid and light reading, grave and gay, prose and verse, are found in its pages, and the many beautiful illustrations add to the interest and value of the text. Dr. Talmage's sermon is a striking one on "Thirst in a Cavern," and there are many other good things in verse and prose, and a fine and vigorous hymn tune on the last page by C. Wenham Smith, to the hymn, "Crown Him with Many Crowns."

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

QUERIES & REPLIES.

WHAT TO DO WITH ESCORT BEES.

Written for the American Bee Journal

Query 535.—What should I do with escort bees, when receiving a queen by mail?—Ohio.

Kill them.—C. C. MILLER.

Liberate them.—MRS. L. HARRISON.

You cannot use them to any account.—A. J. COOK.

I simply let them fly.—J. M. HAMBAUGH.

Let the poor things die. You cannot save them.—DADANT & SON.

Send them adrift to shift for themselves.—J. P. H. BROWN.

Let them shift for themselves. I have never succeeded in saving them.—M. MAHIN.

Liberate the bees in front of a queenless nucleus.—G. L. TINKER.

Let the bees go. It is always safer to introdnce queens without escorts.—P. L. VIALLON.

If the shipping-cage is also one for introducing, like the "Peet" cage, leave them with the queen; at any rate, leave a few with her. My boy says, "Put the rest in a bird-cage."—A. B. MASON.

Open the cage and let them all go, and introdnce the queen alone in the cage.—H. D. CUTTING.

Introduce them with the queen, or let them free, as so few bees are not worth the bothering with.—C. H. DIBBERN.

Anything except letting them fight with the bees of the colony to which you wish to introduce the queen.—R. L. TAYLOR.

Let them fly out of the cage and go where they will, before attempting to introduce the queen.—J. E. POND.

Open the cage on the inside of a window, and let the bees out; then cage the queen alone, or introduce her without her attendant bees.—EUGENE SECOR.

Always kill and bury every one of them. Should there be foul brood where the queen came from, you might, in this way, avoid getting it into your apiary.—JAMES HEDDON.

I used to just turn them loose to look out for themselves; but now I introduce them with the queen. I have experimented in this matter until I am perfectly satisfied that the workers can be introduced sooner than the queen can. I now rarely ever introduce a queen from my own apiary, without taking a few bees with her.—G. W. DEMAREE.

If you have a queenless colony they may be given to it; otherwise they may as well be killed, for that is what any colony having a queen will do with them. It is not best to try to introduce them with the queen, for such a course often results in the loss of the queen.—G. M. DOOLITTLE.

If they are "Apis dorsata," send them to the AMERICAN BEE JOURNAL, in alcohol. If they are not, set them free, and let them take their chances. I have placed them caged with the queen in a colony of bees, and 72 hours afterward fixed the cage so that the bees of the colony could liberate them, and afterwards saw no sign of their untimely death. They are usually executed as intruders.—J. M. SHUCK.

It is safer to kill them—then there will be no danger of their communicating disease to your apiary.—THE EDITOR.

PACKING BEES ON SUMMER STANDS.

Written for the American Bee Journal

Query 536.—1. When bees are packed on the summer stands, is it necessary to put packing under the hive? 2. If so, how is it arranged? Please give details.—Michigan.

1. No.—R. L. TAYLOR.

1. No.—MRS. L. HARRISON.

We simply pack leaves, grass or straw under it, without further ado.—DADANT & SON.

1. No, but it is *best* to do so. 2. Make a double bottom and fill between.—A. B. MASON.

I think that packing under the hive is of but very little importance.—M. MAHIN.

I prefer to let the air pass under my hives to keep them dry.—G. W. DEMAREE.

It would certainly be better. Place the hives either on cut hay or chaff.—A. J. COOK.

The chaff-hive bee-men may have the space.—EUGENE SECOR.

After trying such packing I have concluded that it is not of enough benefit to pay for the trouble.—G M. DOOLITTLE.

I have never put packing under the hives. I think that it is unnecessary.—J. M. HAMBAUGH.

It is not absolutely necessary, but it is best to pack under with straw or hay, if the hives can be kept dry.—J. P. H. BROWN.

Here in the South we let the bees remain on the summer stands without any preparation whatever, all the year round.—P. L. VIALLON.

It is not absolutely necessary, but I think that it is a help to pack under the bottom-board with leaves.—H. D. CUTTING.

I do not think that packing under the hives is of any use unless it is to make a nice place for mice. What I understand by "under the hive," is under the bottom-board.—C. H. DIBBERN.

1. Yes. 2. If the hives rest near the ground, sawdust can be banked up against them, or leaves may be tucked beneath. I usually place my winter hives on a rim filled with sawdust.—G. L. TINKER.

1. I have never done so. I give 2 or 3 inches of space under the frames. I do not know that such packing will do any harm, but my bees winter well without it.—J. E. POND.

1. No, not if you have plenty of snow, and you do in our State. 2. The details of the arrangement varies according to the various methods of packing.—JAMES HEDDON.

I do not think that it is necessary, and I have tried it hundreds of times. As successful as I ever was in out-door wintering, was with a 6-inch hole in the bottom-board covered with wire-cloth immediately under the cluster. The wire-cloth was all there was between the bees and the weather. I had 4 inches of chaff at the sides and ends, and 6 inches of chaff on top. I risked my whole apiary of 40 colonies and lost none.—J. M. SHUCK.

It is neither necessary nor desirable. Snow would be better under the hives.—THE EDITOR.

INDUCING BEES TO BUILD COMBS IN CASES.

Written for the American Bee Journal

Query 537.—Could the bees be induced to build comb in surplus cases by placing them under or in front of the brood-chamber, where the bees would have to pass through in going to and from the hive; I mean for a short time, and then reversed.—Minnesota.

No.—DADANT & SON.

I can see no advantage in your doing so.—J. P. H. BROWN.

Yes, if they have no vacant room elsewhere.—C. C. MILLER.

Yes, sometimes, but not profitably.—R. L. TAYLOR.

Yes; but why not put them on top at once.—A. B. MASON.

It is utterly impractical for any and all purposes.—JAMES HEDDON.

Yes, they could be so induced, but I see no object in so doing.—G. M. DOOLITTLE.

Yes, but better results can be had by adjusting the cases over the brood-chamber.—G. W. DEMAREE.

I would consider it poor practice. Put your surplus cases where you expect them to remain.—MRS. L. HARRISON.

I have never tested this matter, but should go slow in adopting the plan.—J. E. POND.

This is quite a problem; fertile brains might put it in practical form. Who will try it? It might be so.—J. M. HAMBAUGH.

I do not know, but I should fear to try it on a large scale. If they did, would not the queen occupy them, and the combs be filled with pollen?—EUGENE SECOR.

From several trials I say no. Unless sections are placed right by the side or among the brood, they would better be above.—A. J. COOK.

I do not think that it would be of any help to you. Put them on top, where they belong.—H. D. CUTTING.

Yes, it may be done; but there will be a good chance for pollen in the sections. A better plan is, to invert the hive and put the sections *over* the brood-nest.—J. M. SHUCK.

I have had no experience in placing section-cases *under* the brood-chamber, or compelling the bees to pass through it in going from the hive. The natural place for bees to store surplus is over the brood-nest, as you can readily see by looking at a brood-comb.—C. H. DIBBERN.

I have tried that once with no success, therefore I cannot speak of it with much knowledge, but I do not believe that it will induce the building of comb. Contract the brood-nest, and move the frames closer together, and if honey is gathered, the bees will build comb on top as well as anywhere else.—P. L. VIALLON.

If the colony is strong, and there is honey to be gathered in sufficient quantity, the bees will occupy sections over the brood-frames, if one section filled with empty comb, or, what is better, partly filled with unsealed honey, be placed in the centre of each row of sections; otherwise they had better not build comb.—M. MAHIN.

When honey is coming in, bees will build comb either under or in front of the brood-chamber; but as they prefer to carry the surplus above the brood, I believe, as a rule, that is the best place to put the surplus cases.—G. L. TINKER.

Bees will build comb there if they can find no better places, but the system is undesirable and impracticable. —THE EDITOR.

CORRESPONDENCE.

SPRING.

Written for the Youth's Companion
BY WILLIAM H. HAYNE.

When birds are singing
On brush and tree,
And opening roses
Allure the bee,—
When grass is growing
In glade and glen,
And young leaves gladden
The lonely ten,—

When earth yields glimpses
Of hoarded grain,
And the sunshine glimmers
Through threads of rain,—
When dew is falling
On stalk and bud,
And fervid fancies
Invade the blood,—

When brooks are flowing
In music free,
And warm winds travel
Across the sea,
When earth beguiles us
With smile or tear,
We know with gladness
That Spring is here!

LARGE HIVES.

Large Combs and Strong Colonies Conducive to Strength.

Written for the American Bee Journal
BY J. M. HAMBAUGH.

On page 789, Mr. Buchanan, in speaking of 15 colonies of bees which he purchased from a neighbor in large box-hives, with many openings about them, says:

"Such powerful colonies I had never seen in April. I could but view them with astonishment. Musingly I asked myself this question: Of what use is our modern system of contraction, and careful expensive packing, if bees will winter in such splendid condition as they have in these old excuses for hives? What do we know?"

Mr. Buchanan has evidently noted the superiority of large, roomy hives and combs in the case spoken of, and now I will just state that not only have dozens of instances come under my own observations, where bees were occupying large, roomy hives with combs built according to their own liking, but with them in movable-frame hives of two patterns, namely, the Simplicity and Quinby, *a la* Dadant. The difference has been so marked, that there can be no possibility of a doubt in my mind, as to the superiority of large, roomy combs and hives, for out-door wintering, and consequent large yields of honey per colony.

Another point unquestionably is, that they are nearer a non-swarming hive, than those of smaller patterns, and equally as capable of increase should it be desired.

In regard to my statement on page 804 of the AMERICAN BEE JOURNAL for 1887, that where bees are found in all kinds of hives and left to build their own combs, that the same principle that governs one, governs all, in the main, (namely, large, deep, roomy combs, with stores above, brood beneath, and combs spaced from 1½ to 2 inches from centre to centre), Mr. Cullinan remarks on page 39, as follows:

"Did he not find those combs of all shapes and sizes, made and shaped more with a view of filling the repository in which they were built, than to honor any whim or requirement of the queen-mother?"

Most certainly not, unless driven to it for the want of space. A cramped "repository" will necessitate crooked combs, but as a rule, where they are provided with large, roomy brood-chambers, combs will be built as before stated.

Mr. C. says: "The Quinby frame, which is the frame that Mr. Hambaugh alludes to, is too large and unwieldly for extracting, as well as slower of manipulations at all times." As Mr. Cullinan has never tried that which he condemns, we will let the public weigh the assertion for what it is worth.

I distinctly remember my first visit to Mr. Dadant's, and with all the arguments coupled with their long experience, failed to convince me that the "Quinby frame was too large and unwieldly, etc." Yet I never expressed myself so in print, but brought a frame of both brood-chamber and surplus department home with me, by which to make some hives, and satisfy my own mind. This was in the spring of 1883.

That spring I put 5 colonies on frames of this pattern, with only partial sheets of foundation. There was quite a marked difference in the strength of the colonies in the fall, during spanish-needle bloom, they filling their supers and brood-chambers from top to bottom; and with the same treatment, they came through the following winter much stronger in numbers, built up very rapidly in the spring, and having but a single tier of supers for each hive, they swarmed all around, and one of them sent out the second swarm. This began to make me open my eyes, and from that time on I began to pave the way to the use of the Quinby hive for extracting purposes, and the three subsequent years have more than confirmed my former convictions. Mr. C. should know that we are after the results first, and not so much the pleasure of handling. I quote the following from "Quinby's New Bee-Keeping," page 56:

"In 1874 I commenced with 100 colonies, and did not take any surplus honey until basswood blossomed—July 20. During the next 40 days I secured 10,000 pounds of surplus, and increased the colonies to 119, giving me an average of 100 pounds of surplus, from my old colonies."

In the spring of 1886 I had 33 colonies in Dadant hives; I extracted from their surplus departments on June 8. In just one week, or seven days, I ran over the same surplus departments and got from the 33 colonies 798 pounds of honey. On July 3 I got 1,238 pounds, a total of 2,036 pounds in 25 days, being an average of 81 11-25 pounds per colony. The gross product of the season of these 33 colonies was 3,992 pounds, or 121 pounds per colony, and this was obtained without a fall harvest, as it was almost an entire failure.

I had 49 colonies in all in this yard, and they increased to 56. The balance, or 16 colonies, were in 10-frame Simplicity hives, and they did not average as much by 15 pounds to the colony as those in the larger hives, notwithstanding the smallness of the number.

As regards my assertion, that we must imitate nature by making our hives after the style of *log gums*, etc., I will say that my article is written so plainly that a school-boy cannot fail to understand its meaning.

Now Mr. C. shows (by theory) how the horizontal bars and bee-spaces, instead of a detriment, become a benefit to the queen's functions as an egg-layer. He argues from the assumption that the queen is obliged to pass back and forth from each side of the comb, and concentrate her brood in the form of a ball or globe, with the instinct of concentration of heat for the protection of the brood. Very well; but let me ask if he ever observed frames of brood in March, of a colony in a normal condition. If so, will he not see 3 or 4 frames of brood probably 6 inches in diameter?

What would be the condition of this same amount of brood, were it placed in a single section of combs, *a la* Heddon? Would it not be spread more in the form of a pancake, than a globe? and would it be in a condition to get the concentration of heat from the cluster as it would in large combs?

Again, suppose two of the sectional bodies together, have an equal amount of brood in each, would it not be spread over more surface, on the two sets of combs, than on the one? Which would require the most bees in the cluster, to nurse and protect the same amount of brood, not taking into account the air-space that has to be filled in the centre of the cluster? A good queen can always keep her hive stocked with eggs in the early part of the season, to the capacity of the colony to nurse and protect the same from cold, and the more unbroken and compact the cluster and brood, the more rapid will be the development of the same in early spring; and as the colony increases, so does the animal heat in the same ratio, and by the time we are in need of the queen's full power of egg-laying, which is from the middle of April to the middle of May in this latitude, the hive is so well stocked with bees, and cold snaps less frequent and severe, that the queen plys her vocation to the utmost capacity of her surroundings, with less regard for concentration of brood, and the consequence is, the better inside surroundings, to facilitate egg-laying, the stronger and more powerful will be our colonies; and, on the other hand, the more compartments into which the brood-chamber is divided, with the transverse bars, bee-spaces, etc., in the same ratio will we realize a loss, as the queen's time is taken up in passing from point to point.

In the face of these facts, wherein are the sectional brood-chambers an advantage in brood-rearing? I will challenge any bee-keeper to disprove the statement by actual test. We want facts—no fiction; and though some would try to make it appear that the prolificness of the queen is a minor consideration, I will state, that the hive best suited to the production of bees, is best suited to the production of honey, either comb or extracted, if the surplus receptacles are properly constructed and manipulated.

Mr. Hutchinson, in the *Review*, criticises my article on "Large *vs.* Small Combs," with an admission that, "In many instances, larger colonies are secured by using larger hives;" but continues, "What is gained? We simply have our bees and combs in fewer hives, and get larger yields per colony, but no larger per comb or per bee. Successful bee-keeping does not depend upon large yields per colony, but upon securing the greatest amount of honey, with the least expenditure of capital and labor."

Very good; and as the smoke has barely cleared away since the "wordy war" on small *vs.* large hives, in the BEE JOURNAL of 1885 and 1886, by Messrs. Heddon, Hutchinson, the Dadants and others, anything that I might say would probably shed no more light upon the subject, than has already been given; yet I was tempted to investigate a little for myself, and here is the result:

Mr. H. says, "We simply have our bees and combs in fewer hives, and get larger yields per colony, but no larger per comb or per bee." Since learning the above, I sent to a supply dealer for estimates on 8 and 10 frame hives, without inside furnishings, and I here quote his reply:

"Eight-frame hives would be worth just as much (as 10-frame hives), as we do not keep them stock. We would have to make them to order, and the extra trouble of making them would be worth all that we would save on the lumber." Now taking the regular catalogue-prices on 100 10-frame hives, with discount, would be $61.75; this includes single bodies, platforms and covers. Now these 100 hives will hold 1,000 combs, and should we wish to put the same amount of combs into 8-frame hives, we would have to purchase 125 hives, which would cost us $77.18; in other words, it would be nearly 6¼ cents per comb for privileges in our 10-frame hives, and nearly 7¾ cents per comb for privileges in the 8-frame hives. Or, it costs us 1½ cents more per comb to work our bees in 8-frame hives than it does to do so in 10-frame hives.

Now if we can harvest more honey per colony, as Mr. Hutchinson admits, in 10-frame hives, and it is more expensive to work the same amount of combs in 8-frame hives, where is the economy in "securing the greatest amount of honey with the least expenditure of capital and labor," with the 8-frame hives?

As regards the idea of "making our hives so small that an ordinary prolific queen could lay two eggs in each cell, and 'loaf' half the time at that," it is too ridiculous for comment; and as my former arguments cover this subject, we will await the verdict of a discriminating public.

Spring, Ills.

BEES IN SPRING.

Results in Wintering—Immense Country.

Written for the American Bee Journal

BY T. F. KINSEL.

I put my bees out of the cellar on April 3, and found brood in all the colonies except 1, which was queenless; 3 colonies died, 1 was queenless, 1 starved, and 1 had an abundance of buckwheat honey of fine quality, and yet it died. I would be glad to say what ailed it, but I do not know the cause; nor could I discover any material difference between it, and some of the living colonies. There was some mold throughout the entire lot, but not more in the dead colony with plenty of stores, than in others that were alive, and had brood. I have finally come to the conclusion that where human patients, in the prime life take sick

and die, under treatment of skillful physicians, we may expect some loss in bees.

There are some impossibilities in bee-keeping, as well as in other callings; for instance, there was no general yield of surplus last year, and the cause seems to make bee-keepers disagree. If I felt as confident of the "why" of the death of the above-mentioned colony, with plenty of stores, as of the honey dearth last year, I would not hesitate to make an assertion, though in doing so I could offer no known remedy.

Last fall, in placing the colonies in the cellar, 8 were found too light to winter safely. In February the cluster was separated and a frame of honey hung in, so that they could feed. These colonies were among the best when put out on April 3. I did the same last year, and experienced no bad results. Some had the diarrhea in the cellar, and smeared the hive front, and when put out all spotted everything that they could alight upon.

Since putting the bees out, I have examined every frame in each colony, spacing close, according to Mr. J. E. Pond's plan. I am convinced that warmth and close spacing are essential in quickly building up colonies in the spring.

I winter my bees with 8 frames in a 10-frame hive, occupying *all* the hive, and leaving more space *between* the combs in winter. I use the Langstroth frame in Simplicity hives. It may be more expensive to hang combs of honey in the hives for winter stores than syrup, yet the convenience is an item not to be overlooked, and so far it has been safe here.

Our country is immense, climate variable, and no man should lose his judgment and follow advice regardless of latitude. Think of it, "men of the North," who are now sowing oats and barley, our good Editor already has received a white clover blossom from "the Sunny South!"

Shiloh, O., April 9, 1888.

HISTORICAL.

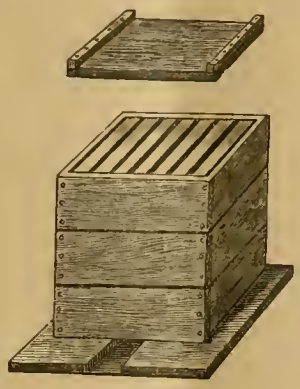
Something on Sectional Hives used 30 Years Ago.

Written for the American Bee Journal
BY M. M. BALDRIDGE.

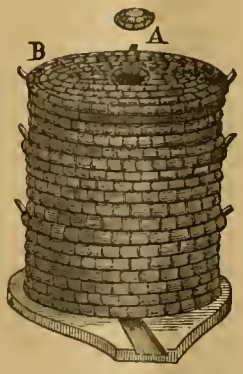
Under date of Feb. 25, 1888, Chas. Dadant sends me an extract copied from one of my letters dated Feb. 13, 1888, which I reproduce as follows:

"Who ever used a breeding-hive made of two half brood-chambers, and arranged so as to divide the brood-nest instantly into two equal parts horizontally, to be used separately or interchangeably, and for the purposes as set forth by friend Heddon? There is something here in manipulation, which the Heddon hive, combined with his instructions, enables us to do, that seems both *new* and *novel*."

Mr. D. then adds this to show me, I presume, that the *features* and *functions* of the Heddon hive are simply *old ideas*, to-wit: "Please look at the AMERICAN BEE JOURNAL for April 14, 1886, page 231; and, at the following



engravings, which were published 30 years ago."



To which I reply as follows:

The cuts you inclose, and which are given above, represent a sectional hive of three horizontal divisions, but I have no means of knowing from what they show, nor from what you say in the AMERICAN BEE JOURNAL to which you refer, the *purposes* for which the said hives are made. The brood-chamber of the new hive of Mr. Heddon is also made of two or more horizontal sections, but the best approved form of his hive is made of only two half brood-chambers filled with close-fitting and yet movable frames, and arranged and manipulated thus and so, throughout, for *special* and very important reasons.

I certainly infer that one of the sectional hives to which you direct my attention, is simply provided with *bars;* and, in the absence of any proof to the contrary, I assume the right to infer that these hives were never used as Heddon uses his, nor were they intended for the same purposes. Hives made of two or more horizontal segments are by no means new to me, as I have seen a few of such hives in actual use, perhaps 25 or 30 years ago, but they were of no special practical value, and I presume none of them can now be found in use! But, notwithstanding that fact, I have never seen a breeding-hive made of simply two half brood-chambers, and for the special and very important reasons as set forth by Mr. Heddon; nor have I yet seen any evidence that any one else has ever seen or used such a hive prior to Heddon's description, and his instructions for using the same. The great trouble is, Heddon and other advocates of his hive, are not intelligently understood by the general reader, and perhaps never will be! But the same was and still is true in regard to what constitutes a Langstroth hive. There are in fact, to-day even, but few who intelligently understand the special features and functions which were the sole property of Mr. Langstroth, as covered by the re-issue of his patent.

My motto is, and always has been, "Honor to whom honor is due." I always try, however, to hold myself open to conviction, and when I am convinced that I have been in error, I will cheerfully admit it. All I want is simply the *truth*, no matter how, nor from whence it comes.

St. Charles, Ills.

SPRING WORK.

Some of the Things Necessary to be Done in Spring.

Written for the Western Plowman
BY C. H. DIBBERN.

It is wonderful how much can be written and learned about the bees. Week after week and month after month, and one year after another, papers, journals, and magazines are printed, and great books are written, all devoted to this one subject, and yet it is not exhausted. Indeed, the more we see, hear and learn in this department of study, the more we are surprised at how little we really know. One would think in reading the bee-periodicals, there would be much repetition, and that they would become very dry reading, but it is not so. The AMERICAN BEE JOURNAL, and other bee-papers, are our most welcome visitors. We are always sure to find something new, if not rich and spicy in them, and they are seldom laid down till the last article is read. Then there is something to think about for days after, and nights, too. Some one

perhaps has suggested an idea, unintentionally, it may be, that not only sets us to thinking, but to experimenting in various directions.

The Bees' Sting.

To many, the bee is an "animal" only to be avoided, to throw stones at their hives, like a lot of boys would at a hornet's nest. Of course such people do not like bees, and the bees soon learn to make the matter mutual. Their only interest is in the honey, if they could only get it away from them. There's the rub, they are afraid of those horrid stings. Now why did an all-wise Creator provide the sting, for is it not said that He made nothing in vain? Is it not easy to understand that without this weapon of defense—and they perhaps never use it only in defense—the poor bees would have had a hard time of it all these years?

Ancient History of Bees.

Bees existed, perhaps, before man was created. Herman mentions them, and they are referred to often in the Bible. Indeed their product, honey, was the only sweet known for hundreds of years. They have co-existed with man from the earliest times,sometimes cared for, but more generally neglected or hunted like the wild beast. In our own times, who does not remember the brimstone pit,where, after a season of patient toil, the poor bees were needlessly slaughtered for a mess of honey, bee-bread, brood and old comb? But a better day has come for the bees as well as the bee-keeper. From the writings of such men as Huber, Quinby, and Langstroth, and the light shed broadcast over the land by our bee-papers, we have learned the better way. We no longer "rob" the bees, but by our care, knowledge, and kind treatment, manage them in such a way that they produce much more honey for us than formerly, and the bee-keeper not only leaves them an abundance for winter, but in times of scarcity provides them with the needed stores.

When we think of the great progress that has been made in the last quarter of a century, of all the books that have been written, the conventions that are held, and the papers that are published, we often wonder if the time will ever come when man will know all that can be learned about so simple a creature as the honey-bee. Will it be in a hundred years, or will it be when he has counted and named the last star that can be observed through the great Lick telescope?

Preparing Feed for Bees.

In studying over the losses that have been reported, we begin to fear that it was not the cold that killed them, but that they were thoughtlessly poisoned. The honey crop last year was so poor thas many colonies had not enough for winter, and feeding had to be resorted to. A good many had never fed anything to the bees before. The bee-papers came promptly to our aid with well written articles by some of the most successful apiarists, describing fully the kind of sugar to buy, in what proportion to mix it with water and cream-of-tartar, etc. They forgot one very important thing, however, that was to caution us not to boil it in copper or galvanized iron vessels, and let it stand in them. I came very near making this same mistake. I had boiled a batch of syrup, using cream-of-tarter, in a copper wash-boiler, and the next day noticed that the acid was acting on the copper. I then emptied it out, and made more to mix with it. I fed it all, and so far do not see any bad results from it. It shows, however, how careful we should be in preparing food for bees, as well as for ourselves.

Active Work—Winter Experiments.

Well, the active work of the apiary is once more upon us. The bees should be removed to their summer stands as soon this month as the weather becomes fine. If the weather continues stormy, do not be tempted to put them out, if in repositories, no matter if it is April. If put out at such a time, many will be lost by becoming chilled in their attempts to fly,and spring dwindling will surely result. If bees have been out all winter, they will remain in their hives, as they have had plenty of pleasant days to fly.

All colonies should be examined as early as practicable, and their condition and wants ascertained and supplied. If any are dead, the combs should be taken care of, and stored for use at swarming time, where the bees cannot get at them. If the combs contain any considerable honey they may be given to such as are short.

The colonies should be equalized, as to bees and honey, as far as possible, so as to give all a fair start. They should have all the sunshine possible, and do not be in a hurry about putting on honey sections. When there is honey coming in, and bees are beginning to get crowded is time enough. Of course much depends on latitude. In the South, they will be gathering honey freely this month, while at the North little can be expected.

It is much better to devote all our energies to induce the bees to breed up to strong colonies this month and next, to have them in extra good condition for the clover and linden harvest, than to vainly spend time giving them room they cannot occupy.

From experiments made this winter, our ideas of in-door wintering have undergone a slight change. Heretofore it has been our aim to make the cellar as warm as possible. This winter more ventilation was given, and at no time since the bees were put in last November, has the temperature been above 45°. The consequence is that the bees have remained clustered and very quiet all the time, and very few bees have died on the floor. They have consumed only a small quantity of stores, and their present condition is the best for many years. April, however, is a critical month for such as are not well provided for, and a good deal of feeding will have to be done.

Milan, Ills.

BEE-LEGISLATION.

Selling the Right to the Nectar on Land.

Written for the American Bee Journal

BY W. J. WILLER.

Prof. A. J. Cook said at the Chicago convention, that when land is sold, the right to the nectar is not sold with it. Taking that for law, then it must be common property, and the people, as such owners, have a right to demand that it shall be gathered as economically as possible.

Let us look at the way in which it is gathered now. Supposing one-half is gathered by one-horse bee-keepers; they will get some bees to start with, and let them do as they like, the result is that each colony will cast from 3 to 5 swarms, thus using all the nectar to rear young bees, only to die from neglect. In this way the owners receive but very little honey in exchange for their nectar. The other half of the producers being experts, but little honey is wasted.

Why is it not as much the people's right to sell their nectar, as it is to sell their land? My plan would be to have it sold off in townships, on the same terms as school land is now sold, the bees to be kept two miles from the town lines, and the small producers to have the privilege of keeping bees until the owner of such territory has a stipulated number of colonies of bees.

The above plan would undoubtedly raise a disturbance at first, the same as actual settlers do with "squatters." Can any one tell how many bee-farms there would then be in the United States? One of the advantages of this plan would be, the ease with which the statistics could be gathered.

But "to err, is human," so the professor may be wrong; or, what is more probable, I may be wrong in my deductions.

Sandusky, Mich.

ARKANSAS.

Bee-Keeping in Southwestern Arkansas—Bees Dying, etc.

Written for the American Bee Journal
BY R. M. RAWLINS.

Last year the honey crop was cut short by the drouth, the bees storing only about ¾ of a crop. Linden did not yield any honey, but the honey-flow up to May 15, was better than usual; after that the bees gathered but little surplus, in fact we did not take any after the rattan bloom in May. They had more honey than they really needed, unless it is in a late spring, such as we have sometimes.

Here bees are usually wintered on the summer stands, with the top stories on the hives. Bees do not freeze to death much, the greatest loss being from starvation, which occurs in March and April, after the hives are full of combs of brood and bees; when it is cold and rainy, if they have not plenty of honey, they have to be watched very closely and fed. With the movable-frame hive this can be attended to much better than with the box-hive. hence the loss is not so great now as formerly.

The principal honey plants are rattan, holly and linden (or "linn," as it is called here). The fall flowers are principally asters, but cotton yields some honey. Clover is not sown very much, but the farmers are increasing the acreage in this honey-plant. We are dependent upon the forests for the most of our honey, and they are being cut down and the land cultivated, so we will have to encourage the planting of clover more than ever.

The box-hive bee-keepers say that the bees do not produce as much honey now as they used to do. They surely do not for such bee-keepers; but the Italian bees, kept in movable-frame hives, average per colony about 40 pounds, on the hills; bees near the river-bottoms produce one-half more.

The Union and its Non-Supporters.

I think, as the editor has said, that among so many bee-keepers it is a shame that no more belong to the "Union." It is too bad for an honest industry to be trampled upon as has been done in Mr. Z. A. Clark's case, at Arkadelphia. Mr. Clark had invested a considerable sum of money in bees and fixtures, and had increased them to the number of colonies that he expected to keep (150 or 175 colonies), expecting to get a living from the bees.

Bees Dwindling and Dying.

Last spring, 5 colonies in 12-frame Simplicity hives, with top-stories on, strong in bees, and with plenty of honey, commenced dwindling. The bees that work seem to die the worst. Their abdomens are somewhat swollen, they crawl out and try to fly, and when the affected ones do work, it is very easy to detect that they are sick. Some hop from the alighting-board, and lie flapping their wings until they die. Some are dragged out by the well bees, and some rest on the alighting-board, flapping their wings, and constantly kicking and rubbing their feet. About the same number of colonies are in a similar predicament this spring, but not all of the ones that were affected last year.

The best colony in the yard is one of the sick ones. I say "sick," but I do not know what is the trouble with them. It cannot be the diarrhea, and if they are poisoned, why are not more of them affected?

During the honey-flow last year, they gradually stopped dying, but the colonies became very weak before it ceased. Is there anything that bothers bees at night? It seems to me that they were troubled in that way. Can any one, judging from what I have described, tell what ails the bees, and how to cure them?

Okolona, Ark.

COLUMBUS, O.

The Bee and Honey Show at the Centennial.

Written for the American Bee Journal
BY DR. A. B. MASON.

The following is the premium list for bees, honey, apiarian supplies, etc., for the Ohio Centennial Exposition to be held at Columbus, O., from Sept. 4 to Oct. 19, 1888.

No entry-fee will be required, and no charge made for space in this class, and all intending exhibitors in this class will be furnished with entry-blanks, rules, regulations, etc., free on application to me. Others desiring premium lists, etc., should apply to L. N. Bonham, Secretary, Columbus, O.

Exhibitors can begin arranging their exhibits on Aug. 21. Exhibitors' admission tickets, good during the Exposition, $5.00. Competition and exhibition in this class, is confined to Ohio.

A building is to be erected for this Department, and it is *very* desirable to know *at once* how many will want space, and how much they will want for honey, and how much for other exhibits, so as to have the building of suitable dimensions; and I hope such as intend to make an exhibit will let me know immediately, what space they will need. Sometime since I made such a request in *Gleanings*, and only two responded. At that rate no building will be needed, for a corner in some other building would do, and Ohio bee-keepers would have occasion to be ashamed of their lack of interest in this display of the State's material progress in this direction during a hundred years.

It is expected that the annual meeting of the North American Bee-Keepers' Society will be held in Columbus during the Exposition, and Ohio bee-keepers *ought*, and I trust *will*, have pride enough in the good name of their State, and in this industry, to make the grandest display ever made on this continent.

As shown below, there is a first, second, and third premium offered on most of the exhibits, or articles, and the total amount offered is over $400, being the largest amount ever offered by any State.

Such exhibitors as do not desire to remain at the Exposition, can leave their exhibits in my care, and they will be looked after and cared for to the best of my ability, and without charge; and such as do not care to arrange their exhibits themselves (except for display of comb and extracted honey) can send their exhibits to me at Columbus. O., after Aug. 21, with all charges paid, and I will see that they are properly placed and cared for, without charge, and they can visit the Exposition at such time as will best suit their convenience, and find their exhibits all in place.

I am in hopes that we shall be able to have an apiary established on the grounds, and have public manipulation of the colonies by bee-keepers who may visit the Exposition. As the Exposition is intended to show the *material* advancement of Ohio in a hundred years, it will be "just the thing" to have on exhibition the most antiquated appliances, as well as the most modern, and to show also how bees used to be kept and honey obtained, and I hope those having old things of interest in bee-keeping whether they live in Ohio or not, will correspond with me with a view to having such things on exhibition.

The old "log gum," box-hive, and the straw hive, all with bees at work in them, will be among the attractions, "if it takes all summer" to get them. The cow-bells, tin horns, and tin pans that used "to make the bees alight," will recall to some "the days of childhood," and make them young again.

Here is the Premium List in the Apiarian Department:

Bees, Honey, and Apiarian Supplies.

A. B. Mason, AUBURNDALE, O., *Superintendent.*

All entries close Aug. 6. Anything competing for a single premium cannot be included in a display. Colonies must be

exhibited in such a shape as to be readily seen at least on two sides. Such provision will be made for the display of comb honey (and other articles that might be injured by bees), that it can be exhibited without crates. Everything *must* be in place by the morning of Sept. 4, 1888.

Best display of comb honey (largest and most attractive)	$25 00
Second best	20 00
Third best	15 00
Best display of extracted honey (largest and most attractive)	25 00
Second best	20 00
Third best	15 00
Best sample of extracted honey, not less than 20 lbs., in best shape for retailing	5 00
Second best	4 00
Third best	3 00
Best sample of comb honey, not less than 20 lbs., in best shape for retailing	5 00
Second best	4 00
Third best	3 00
Best colony of bees, numerical strength and purity of race being competing points.	10 00
Second best	8 00
Third best	6 00
Best race of bees, numerical strength and purity of race, the competing points	10 00
Second best	8 00
Third best	6 00
Best collection of honey-producing plants	15 00
Second best	10 00
Third best	5 00
Best display of beeswax	8 00
Second best	6 00
Third best	4 00
Best foundation mill	6 00
Second best	5 00
Third best	4 00
Best foundation press	6 00
Second best	5 00
Third best	4 00
Best foundation for a brood-chamber, made on the grounds	4 00
Second best	3 00
Third best	2 00
Best foundation for surplus, made on the grounds	4 00
Second best	3 00
Third best	2 00
Best foundation for surplus, sample of not less than 10 lbs	3 00
Second best	2 00
Third best	1 00
Best foundation for brood-chamber, sample of not less than 15 lbs	3 00
Second best	2 00
Third best	1 00
Best honey-cake, with recipe for making	3 00
Second best	2 00
Best honey-cookies, with recipe for making	3 00
Second best	2 00
Best honey jumbles	3 00
Second best	2 00
Best honey candies	5 00
Second best	3 00
Best honey vinegar, not less than 5 gals., displayed in glass	4 00
Second best	3 00
Third best	2 00
Best display of queens, in such shape as to be readily seen	4 00
Second best	3 00
Third best	2 00
Best honey-extractor	5 00
Second best	4 00
Third best	3 00
Best wax-extractor	3 00
Second best	2 00
Third best	1 00
Best bee-hive for all purposes	4 00
Second best	3 00
Third best	2 00
Best bee-hive exhibition	3 00
Second best	2 00
Best bee-smoker	3 00
Second best	2 00
Best arrangement for securing surplus honey	3 00
Second best	2 00
Third best	1 00
Best sections for comb honey, not less than 50	2 00
Second best	1 00
Best apiarian supplies and fixtures	8 00
Second best	6 00
Third best	5 00

FOUNDATION.

Historical Description of the New Comb Foundation.

Written for the American Bee Journal

BY C. J. H. GRAVENHORST.

A bee-keeper of Thuringia, the homeland of Baron von Berlepsh, in Germany — a Mr. Koerbs in Bath Berka—has been successful in producing a new kind of comb foundation. For a few years he had subjected his invention to a test, and found that it works very well.

A careful observation of the bees, suggested by a remark in the third and fourth edition of my book, "The Practieal Bee-Keeper," prompted him to make experiments. His new foundation has the following advantages :

1. It is made of pure wax, by means of a hand-press, and it is not used by the queen for breeding, even if the foundation-combs are put in the brood-nest.

2. It is very durable, and the most delicate combs of such foundation will stand the employment of a full force in extracting the honey.

3. The honey is extracted very quickly, the operation scareely requiring half the time that others take.

4. In bad seasons, these eombs remain empty, not being used for breeding, and there being, unfortunately, no honey to colleet.

5. The bees store no pollen there.

The separation of the honey compartment in the hive, from the brood-nest, beeomes superfluous. As Mr. Koerbs told me this, I wrote to him, that he promised a good deal. Though I knew him as a successful bee-keeper, and fortunate inventor of a frame machine, I nevertheless was not oversanguine in regard to his latest invention. But as Mr. Koerbs offered to give me particulars of his invention, I gave him my word of honor not to divulge his secret. Full particulars were given me, and in addition I received one of Mr. Koerbs' eombs of foundation, completed by the bees, from which the honey had been extracted several times.

The matter did appear to me to be very simple, and I thought that if this new invention should accomplish only half of what Mr. Koerbs expects it to do, we shall undoubtedly see a great revolution in the manufacture of comb foundation, as well as in bee-keeping.

Mr. Koerbs has sold the patent of his invention to Mr. Otto Schulz, a German manufacturer of foundation on a great scale, who now has, by his patent, the right to manufacture this new foundation in Germany and Austria, and no one in these countries has the permission to use the new combs, except after buying the comb foundation from Mr. Schulz.

I do not like patents in bee-keeping matters, and should have been very glad if another plan were carried out, to the benefit of both the inventor of the combs, and the bee-keepers of Germany and Austria.

In order to enable bee-keepers to manufacture their requirements of such combs for themselves, Mr. Koerbs has started a subscription to a pamphlet in which his experiments, and also the manufacture of the foundation, and the method of using it are described. Any one who would agree to take this pamphlet at 25 cents, would, in due time, receive a copy, postpaid, in case Mr. Koerbs secured at least a few thousand subscribers. The pamphlet would be mailed to all subscribers on the same day. But only 350 subscribers had agreed to buy the pamphlet. Many of the German bee-keepers condemned this way, and pleaded for a patent. Mr. Koerbs applied for a patent, and then sold it to Otto Schulz.

And now comes the secret: The new comb foundation is one-sided, with prolonged honey-cells. One side of a frame is closed with a tin sheet, covered with wax and worked into foundation. The bees work out the cells to double the length, and fill them only with honey. Perhaps many bee-keepers have seen one-sided combs in hives full of honey, and many perhaps have had combs with prolonged cells on both sides of each comb, and have seen only honey in them. I do not doubt that a comb of such qualities as Mr. Koerbs claimed for his, would be of great benefit for every bee-keeper, if he only understands how to use it in the right way; and this way will be found out, I think, next season.

Wilsnack, Germany, Mareh 12, 1888.

CONVENTION NOTICES.

☞ The Darke County Union Bee-Keepers' Association will hold its annual meeting on Friday, April 27, 1888, at Ansonia, O. J. A. Roe, *Sec.*

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. FULLER, *Sec.*

☞ The spring meeting of the Wisconsin Lake Shore Center Bee-Keepers' Association will be held on May 31, 1888, in Mueller's Hall, at Kiel, Wis. FERD. ZASTROW, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited. W. H. BEACH, *Sec.*

☞ The Keystone Bee-Keepers' Association will hold its sixth annual meeting in the Court House at Scranton, Pa., on Tuesday, May 8, 1888, at 10 a.m. All bee-keepers are invited. A. A. DAVIS, *Sec.*

☞ The annnual meeting of the Western Bee-Keepers' Association will be held at Independence, Mo., at the Court House, on April 25, 1888. It will be carried on as a sociable, friendly gathering. Let all bring their baskets and have a good time. PETER OTTO, *Sec.*

☞ The semi-annual meeting of the Progressive Bee-Keepers' Association will be held in the Sons of Temperance Hall at Bainbridge Centre, O., on Thursday, May 3, 1888. Parties wishing conveyance from Geauga-Lake Station, on the Erie railroad 3 miles distant, will please notify Mr. L. H. Brown, Bissels, Geauga Co., O., so that arrangements can be made for the same. All interested are invited. MISS DEMA BENNETT, *Sec.*

☞ The next meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on May 5, 1888. The following subjects are to be considered: Bee-keeping for pleasure and profit—Spring work with bees—Is it advisable to use foundation? If so, to what extent?—How can we make our Association of the most practical value to its members. All are cordially invited to come. H. M. SEELEY, *Sec.*

☞ The tenth annual meeting of the Texas State Bee-Keepers' Association will be held at the beeyards of Vice-President W. R. Graham, in Greenville, Hunt Co., Texas, on May 2 and 3, 1888. A leading feature of the convention will be criticisms upon subjects that have been mentioned in the bee-papers. A good time is expected, so let all Texas and Arkansas bee-keepers attend. A cordial invitation is extended to all bee-keepers wheresoever dispersed. Remember, no hotel bills to pay at our conventions! B. F. CARROLL, *Sec.*

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Apr. 27.—Darke County, at Ansonia, O.
J. A. Roe, Sec., Union City, Ind.

May 2, 3.—Texas State, at Greenville, Tex.
S. F. Carroll, Sec.,Blooming Grove, Tex.

May 3.—Progressive, at Bainbridge Center, Ohio.
Miss Dema Bennett, Sec., Bedford, O.

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 7.—Welland County, at Welland, Ont.
J. F. Dunn, Sec., Ridgeway, Ont.

May 8.—Keystone, at Scranton, Pa.
Arthur A. Davis, Sec., Clark's Green, Pa.

May 8.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

May 19.—Nashua, at Nashua, Iowa.
H. L. Rouse, Sec. Ionia, Iowa.

May 22.—N. W. Ills. & S. W. Wis., at Rockton, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

May 31.—Wis. Lake Shore Center, at Kiel, Wis.
Ferd. Zastrow, Sec., Millhome, Wis.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Working on the Forest Bloom.—T. M. Edwards, Kerrville, Tenn., on April 16, 1888, writes:

My bees are now booming on the great variety of forest trees that are now in bloom. The poplars will be in full bloom in a few days. My bees wintered well; out of 120 colonies only one starved to death, and 4 were queenless. There are no bees diseased in this country, and the prospects are fine. I had one swarm on April 14.

High Water in Iowa.—John B. Lindle, Muscatine, Iowa, on Apritl 16, 1888, writes:

I have had my share of trouble with high water. Over 100 head of cattle and horses, and over 60 sheep, and a lot of hogs are all on about 60 acres of dry land, the balance of my farm (consisting of 400 acres in all) being flooded with water. This changes all of my farming calculations. There is water in the cellar now. Cedar river is higher than any time since 1860. I have feed enough for my stock, but my poor bees suffer the most, as they are flying to the timber which is one-half mile distant, with one sheet of water for miles around on three sides of my place. The trees are budding, and also the willows. As the bees come in on the "home stretch" with pollen, they tire and chill with the cold wind, and drop by the hundreds to rise no more, then swept off by the current. It seems that one extreme follows another.

Experimenting with Bees.—John Boerstler, Vashon, Wash. Ter., on April 6, 1888, writes:

Yesterday morning, about 10 o'clock, I noticed that the bees in hive No. 3, were not flying. I rapped on the hive, but I could not hear a sound; so I opened the hive, and there I found all the bees dead. I picked up the queen and layed her on the ground, and then I brushed all of the bees on the ground, but not a bee moved. I studied for five minutes what to do, and finally put all the bees and queen into a pail, and placed them near the stove in the house. What do you think they did? They began to move, when I breathed on them, and after an hour's work they were all revived. I made syrup, and fed it to them in the combs, and a great many of them are flying again. I believe that I will yet save them from as close a call as I ever have known bees to have in my 20 years of bee-keeping. The bees are all right again to-day, and I think that they will do well by feeding them as I am doing.

Condition of the White Clover.—Rev. M. Mahin, Bluffton, Ind., on April 4, 1888, says:

My bees have wintered well. I lost 3 colonies out of 34. In this part of the country I think that the white clover is badly damaged. At New Castle, where my bees are, it does not seem to be much injured.

Wintering Bees in Idaho.—F. H. McDonald, Star, Idaho, on April 10, 1888, writes:

The winters being usually mild here, bees, as a rule, are wintered on the summer stands, without any protection. The last winter being colder than usual, a few colonies froze to death, and others were made weak by the cold. On their first flight they daubed the hives considerably, but they soon became all right. The first pollen was gathered on Feb. 17. Colonies have built up fast, and are now strong.

Bees Not in Good Condition.—Christian Weckesser, Marshallville, O., on April 16, 1888, says:

Bees are not in very good condition, generally, in this vicinity, and a very large per cent. have died. Cool winds are prevailing, and many bees will yet die, if not very well cared for. I notice that those colonies that were fed late in the fall, and "tinkered" with, are the worse for it, apparently. Those wintered in the cellar are rather the best, but most of them, though strong, had little brood when placed on the summer stands.

Good Outlook for the Bees.—B. A. Manley, Milo, Iowa, on April 11, 1888, says:

March is gone, and April brings a good outlook for bees. My bees wintered in excellent condition. I packed them in corncorb chaff from an elevator, which I will describe at some future time. Sometime ago it was thought that bees were wintering well in this section, but April reveals the fact that only the bees that were well cared for in the fall were able to get through. I hear of some losing all, and some having a small remnant left. But the thoughtful ones have no reason to complain. My bees are using this fine weather with all their might. I saw them carry in natural pollen on April 2. This is a good country for white clover, and it is starting up nicely.

Experience in Bee-Keeping.—Jesse Willis & Son, St. Charles, Mich., on April 10, 1888, write:

Our experience with bees dates back 20 or 25 years, the first colony being taken from a bee-tree; since that time we have never been without bees. We have tried almost all kinds of hives—patented, moth-proof, and non-swarming—as claimed by the makers, and many other kinds, and we have come to the conclusion that the closed-end Quinby is preferable for our own use; but we find them somewhat unhandy when shipping bees. We now have 250 colonies of hybrids. We winter them in chaff hives with fair success, and work exclusively for comb honey, which we find the most profitable. The most of our honey is shipped north, to Bay City, Saginaw, and other places, as our home market requires but little. We generally aim to get our crates and sections ready, and also the foundation fastened in the sections, before the honey-flow comes. Our greatest trouble has been in fastening foundation in sections, and we have been helped out of that with one of the latest foundation fasteners. Our best honey-flow is from white clover and basswood. The fall honey comes from wild rice and button-balls.

Colonies Need Building Up.—Rev. John Hunt, Plain City, O., on April 11, 1888, writes:

Last fall I had 20 colonies of bees. Last season was a very poor one for honey. The white clover yielded nothing. I had no swarms, and no surplus honey—not even a supply for the bees themselves. Three colonies died during the winter, and the remainder are weak in numbers, though apparently in good condition, but will need building up greatly, to take advantage of the honey season, if it should be a good one. I have fed them on sugar syrup.

Bees Booming in Tennessee.—John H. Christie, Dyersburg, Tenn., on April 9, 1888, says:

Bees are fairly booming. I do not think that I ever have seen them in as good condition at this time of the year as they are now. Some of my bees have begun work in the sections. I had a swarm on April 6. Peach and plum trees are through blooming, and pear, apple and cherry are now in full blast. Strawberry beds look white. I lost but one colony out of about 100 in wintering, and that starved to death for the want of honey.

Clamp for Wintering Bees.—Justus Chapman, Woodville, Mich., on April 14, 1888, writes:

I started in the spring of 1887 with 2 colonies, having lost the balance of my bees during the previous winter. I increased them to 6 colonies, and took off 50 one-pound sections of white clover honey. The hives were heavy the last of October, when they were put into a clamp, *a la* Hutchinson, without cushions or division-boards, or other extras. They were taken out on April 9, and were all right excepting a slight diarrhea.

Heavy Loss in Bees—Alfalfa Seed.—E. Jarvis, Fairgrove, Mich., on April 14, 1888, says:

There is, I think, a heavy loss of bees in this region, and many colonies have no honey left. We could not well double up colonies last fall, as there were many bees in each hive. I have 4 colonies left from 20. Some were in a shed, and some out in the wind. Two of those wintered outside are alive. My bees three years ago were hybrids, Cyprians and blacks. One queen mated with a yellow drone in 1887. Where can I get alfalfa or lucerne seed by the pound?

[It is worth 40 cents per pound by mail. It can be obtained at this office.—ED.]

Scatter the Leaflets.—Look at the list (with prices) on the second page.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Honey and Beeswax Market.

DETROIT.

HONEY.—Best white in 1-pound sections, 15@16c. Extracted, 9@10c. Little demand and few sales.
BEESWAX.—23@24c.
Apr. 12. M. H. HUNT, Bell Branch, Mich.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull.
BEESWAX.—24c.
McCAUL & HILDRETH BROS.,
Apr. 7. 28 & 30 W. Broadway, near Duane St.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections, to 14@15c. for off color and condition; 2-lbs., 14@15c. Dark is slow of sale at almost any price. Extracted, 7@9c., with good supply. Light demand.
BEESWAX.—22@23c. R. A. BURNETT,
Mar. 22. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.
Mar. 19. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI

HONEY.—We quote extracted at 4½@9c. per lb., for which demand is good. Comb honey, 14@17c.—Supply large and demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Mar. 26. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 17@18c.; 2-lbs., 15@16c.; 3-lbs., 14c. Dark and broken not quotable. Extracted, white in kegs and ½-barrels, 8½ to 9c.; in tin and pails, 9½@10c.; dark, ½-barrels and kegs, 5@7c. Market slow.
BEESWAX.—22@25c.
Mar. 10. A. V. BISHOP, 142 W. Water St.

DENVER

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Mar 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 6@7c. Market quiet.
BEESWAX.—18@21c.
Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Advertisements.

BEES FOR SALE,
DANIEL WHITMER,
17D2t P. O. Box 485, SOUTH BEND, IND.

ITALIANS on Langstroth frames—2-frame Nucleus (no Queen), $1.25; 3-frame, $1.75. Bees per lb. 65c. Tested Queen, $2; Untested, $1.00. Also **Dew-Berry Plants** which I will sell for 50c. per doz. Every plant warranted to live, or I will replace them.
15A4t H. L. Paogborn, Maquoketa, Iowa.

35 COLONIES of BEES
in good condition. For particulars, address,
P. O. BOX 40,
17A2t BELLEVUE, NEBR.

HOW TO RAISE COMB HONEY,
PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.

WANTED,
Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.
THOS. G. NEWMAN & SON,
923 & 925 West Madison St., - CHICAGO, ILLS.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

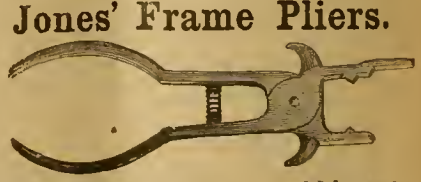
A Grand Offer on Bees!
I WILL SELL to the first man that means business, my **20 Colonies, and Hives with Empty Combs, Extractor and Capping-Box, etc., at a bargain.** For I cannot run a store and bees to. I must sell immediately. This is the best kind of a chance for any one to go into the business. Come and see me if you wish to buy.
J. H. MURDOCK, Dexter, Mich.

2-OUNCE HONEY SECTION.
SEND for Circular of the Shaving System for small Sections. Invented and brought to practical perfection by
WALTER HARMER,
16Atf 411 West 8th St., MANISTEE, MICH.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

SURE to send for our Circular before buying. Italian Bees by the lb., 2 or 3 fr. Nuclei, Queens, Foundation, &c. Unt'd Queens in May, $1; in June, 75c.; 6 for $4.
Jno. Nebel & Son, High Hill, Mo.
14Atf

Jones' Frame Pliers.



FOR taking frames out of hives, or moving them in any way desired. It is made of Japanned iron, and can be utilized in many ways. It has a long claw for loosening frames, and a hook which may be used for carrying other frames besides the one held by the Pliers. Price, 40 cents., by mail. By express, 30 cents.
THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.

THE AMERICAN BEE JOURNAL CIRCULATES ALL OVER THE WORLD.
PUBLISHED BY THOS. G. NEWMAN & SON, CHICAGO, ILL.

THOMAS G. NEWMAN, EDITOR.

Vol. XXIV. May 2, 1888. No. 18.

EDITORIAL BUZZINGS.

Listen to the honey-bee
As it dances merrily
To the little fairies' drum—
Humming, humming, humming, hum,
Never idle, never still,
Humming, humming, hum.

In Answer to our question, "Has any one yet received any of the Chapman Honey-Plant seed?" Mr. Ed. T. Smith, of Pike Co., Mo., says: "I got a nice package weeks ago. I wrote to our Congressman." Several others have received some of it.

Letters are often lost which contain money—stolen in transit. We have lost several lately, and this item from the Chicago *Times* explains it:

Letter Carrier C. F. Burgwardt, of the West Madison Street Station, was bound over to the grand jury in $1,200 bonds for rifling letters.

When a Money Order, which is absolutely safe, can be obtained for 5 cents, there is no excuse for carelessly putting money into ordinary letters. If a Money Order is stolen it can be duplicated. If a Money Order cannot be conveniently obtained, register every letter which contains money. As every clerk, carrier and route agent must account and receipt for every registered letter passing through their hands in transit, it is about impossible for a dishonest person to tamper with one, without discovery.

The Best Advertising Medium.—The Bee-Keepers' *Review* for April states that while its advertisement has appeared in all the principal bee-papers, that of all those who have answered it, three-fourths say that they saw it in the AMERICAN BEE JOURNAL! Straws show which way the wind blows. As a means of placing anything of value before bee-keepers, the AMERICAN BEE JOURNAL stands at the head. The BEST is *the cheapest.*

The Appeal to the Supreme Court on the one-piece section patent was decided on Monday, April 23, 1888, by confirming the decision of the lower court. As we understand it, this nullifies the patent. It is strange that the Government should so often issue patents and then not sustain them. We have been appealed to for advice quite often about getting patents on some implement or contrivance, and have invariably recommended parties not to go to that expense and trouble, for we did not think that it would pay them to do so.

In this case, the costs have amounted to thousand of dollars, and to obtain the decison on the appeal it has taken nearly four years!

This reminds us of a story as given in *Texas Siftings*. It is thus:

A client meets his lawyer on the street and asks him how his case is coming on.

"Thanks to my skill," replied the lawyer, "I have obtained a judgment in your favor in the United States Supreme Court."

"After four years."

"But, my dear fellow, better late than never."

"How much do I get?" asked the client anxiously.

"The court decrees that you shall receive $2,000. The costs and my fee will only amount to $3,500, so all you will have to pay me is $1,500."

"Merciful Heavens! and I must lose all my money besides!"

"Of course you lose all your money, but console yourself. You have gained your case. You can't expect to gain everything."

Such suits are *fat things* for the lawyers, and they are the only ones generally benefitted. To *gain a suit* is a very empty thing, when that is all there is to it, after all the expense and worry. Our advice is again repeated—do not think of patenting any bee-implement; it will not pay!

The "section patent" contest is of no particular interest now to either party, for the price of sections have been so much reduced that there is but little profit in their manufacture.

Oust the Chemist.—E. E. Ewing, Rising Sun, Md., writes thus concerning the scandalous schemes of Prof. Wiley, the National Chemist. Some time ago the Manager of the National Bee-Keepers' Union, wrote to President Cleveland concerning the intrigues of the wily professor, and asked him to cause an investgiation. He is a National disgrace. Here is Mr. Ewing's remarks:

I think bee-keepers owe it to themselves, to the Government of the United States, and to the public, to get up a petition setting forth the scandalous lies of Wiley, that chemical fraud, together with his answers in regard to the lard of hogs that have died of disease, etc., praying the authorities at Washington to have him dismissed from Government employ, and send the petitions all over the country for signatures. Such a scamp is a disgrace to the Nation! What will be thought of American lard by Europeans who read such answers coming from a chemist in the employ of the Government. His honey lies and his lard chemistry look as though the author was in the employ of the adulterators as well as that of the Government.

Educate the Opposition.—Mr. G. A. Adams, of Perrysburg, O., on March 2, 1888, wrote his views of defending the pursuit as follows:

In sending my remittance for the Bee-Keepers' Union, I do not wish to be considered as approving of the *method* of defense by law. A better method, in my opinion, would be to *enlighten* the public instead of fighting it.

Would it not have been better for Mr. Clark, of Arkadelphia, to have yielded to the wishes of his fellow citizens, and removed his bees at once; and then quietly diffused a very little bee-knowledge among his neighbors? A little patience, and a little expenditure of money for Mr. McLain's report, and the many other testimonies which have been published, if judiciously placed, would do more to restore peace between Mr. Clark and his neighbors than a triumph at law.

In a town near me, a bee-keeper and a grape-grower came very near having a conflict last year. The grape-grower finding the bees troublesome when he came to gather his grapes, mashed some pears, and sprinkled a little sugar on them, and the bees left the grapes for the sugared pears, and he had no more trouble.

He told his neighbor of his success in getting rid of the bees, and the owner of the bees said he did not want his neighbor to feed his bees for nothing, and so gave the grape-grower a few sections of honey. Both men were pleased, and are good friends today. I venture to say that no lawing will ever take place between them, The sugar experiment convinced the grape-man that he had a better way of ridding himself of a nuisance than going to law, feeing lawyers, and cultivating the fighting qualities of himself and his neighbor.

Let me suggest the publication of a pamphlet by the editor of the AMERICAN BEE JOURNAL, which will give the facts about bees biting grapes, etc., and then let them be scattered wherever needed.

Yes; that is a good plan in ordinary cases. We should always be peaceable, and when our rights are not being trampled upon, submit to the views of our neighbors, but in Mr. Clark's case, only a very few opposed his keeping an apiary there, and they only spitefully and maliciously. Mr. Clark was opposed to the saloon element, and that element took this way of persecuting him. This is as we understand it. If we are to submit to such—then we may expect a "reign of terror" indeed. But backed up by the National Bee-Keepers' Union, Mr. Clark will be sure to score a *victory* next July before the Supreme Court.

At the Nebraska Convention the Rev. E. T. Abbott delivered an interesting address on "The Honey-Bee," only a synopsis of which came to us. We wrote to him for a fuller report of it, and the result was its publication on page 223. By an oversight it was not there credited to the Nebraska Convention. This explanation answers an inquiry concerning it, and at the same time gives the proper credit.

New Catalogues for 1888 are on our desk, from the following persons:

A. M. Gander, Adrian, Mich.—20 pages—Apiarian Supplies.

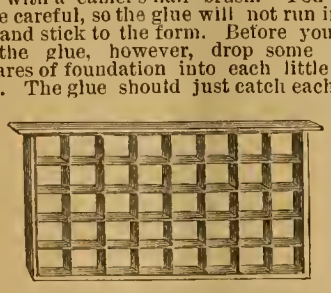
W. G. Russell, Millbrook, Ont.—16 pages—Bee-Keepers' Supplies.

GLEANS OF NEWS.

Comb Honey in 5c. Packages.—Mr. W. Harmer, of Manistee, Mich., has for three years been engaged in putting up comb honey in 2-ounce packages, and has sold several thousands of them. Mr. A. I. Root, editor of *Gleanings*, visited his apiary last December, and thus describes in that paper his method of making these small sections:

He takes a ⅞ board, just long enough to slip inside of a Langstroth frame. Then with a jack-plane, set coarse, he scoops off the shavings. The shavings, of course, roll up; but he tumbles them into a pail of water; and when they get well soaked, they are straightened out, piled up and dried. This gives thin strips of veneer, and cheaper than you can imagine. He then fixes a board as in the second engraving. The Langstroth frame is slipped over this board.

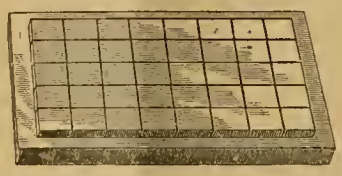
I want to say, first, that these little blocks are made by gluing a ¾ board on top of a ⅞ board, as you see. Now, with a circular saw, cut grooves clear through the thin board until the saw strikes the thick one. These grooves are of such a width that *three* of the afore-mentioned strips of veneer will drop into each groove, the strips running lengthwise of the frame. When this is done, three short pieces of veneer are dropped into the grooves crosswise. But to make these bits of wood stay in place when the frame is pulled up, a little glue is put into each corner, with a camel's-hair brush. You want to be careful, so the glue will not run in too far, and stick to the form. Before you put in the glue, however, drop some little squares of foundation into each little section. The glue should just catch each corner of the foundation. When the whole thing is dry, lift it off and hang it in the hive. When the little sections are full and sealed over, take frame and all to the grocer; slip off the outside, and show him that he can separate the squares into long strips. With a sharp knife he can now cut them up into little cakes as wanted. If a customer wants two, four, six, or eight, let him have them all in a slice, to save handling so many loose pieces.



The engravings were kindly furnished by Mr. Root from *Gleanings*, and this description by Mr. Harmer is also from the same source.

Getting small sections filled, never troubled me; for I knew that bees would fill spaces with comb honey that are a little more than a quarter of an inch, so that, with a good honey-flow, I was not afraid but that they would fill a 2-inch space. I would say just here, that I have had sections well filled, only ¾ of an inch square, so that, in this particular, I was all right; and I have proved to my satisfaction, and, I think, to the satisfaction of the few bee-keepers who have called on me, that I have developed a practical system for making small sections out of shavings from a common hand-plane, and will suit any size of sections for less than 1 pound of honey, with the proper mold or form for adjusting them.

The reasons why I wanted them are, first, because I have seen comb honey cut in pieces, making it leak in every instance, often being a nuisance, daubing everything, causing considerable trouble, and making it difficult to give a customer, perhaps a boy or small child, a few cents' worth of comb honey; for every one has not 20 cents to spare to buy a whole section; and if they had, they do not always want so much. I think there are very few grocerymen who would cut a comb to suit such customers; and there are thousands of children around us that do not know the taste of comb honey on this account. I also thought that well-to-do people would buy them for the purpose of putting one on each plate instead of serving or cutting into a large comb. These reasons have all been verified, for I have found such customers delighted in every instance. I have not had the opportunity of trying them at Fairs, but I should think they would be just the thing, and would as readily bring 5 cents for a 2-ounce section as 4 ounces would on a piece of paper. That is what I sell them for, which is at the rate of 40 cents per pound, so that, in making these sections in the winter, you have profitable employment.



I can put hundreds together, and comb foundation in them in a day, ready for the honey-flow in summer. The size I have been making you will find by dividing a Langstroth brood-frame by 10 one way and 4 the other. The shavings for this size are ⅞ of an inch wide, and 1-36 of an inch thick. I find this size, when filled, to weigh 2 ounces. I have just weighed 15 separately, which are on the work-bench, ready for market, and were not selected for uniformity of weight, and each one just balanced the scales at 2 ounces.

If these little cakes of comb honey can be put on sale in groceries, on the cars, at fairs, etc., they will prove a great boon not alone to honey-producers, but to humanity in general, by placing a pure sweet in small quantities within the reach of all.

Chaucer to Longfellow is the title of a new book just published by Johnson & Erskine, 107 Madison St., Chicago. This book contains 656 royal octavo pages, being a selection of lectures on English literature by the late Prof. John Fraser, a man of rare and scholarly attainments.

Among the great names of the period that come under review in the lectures are Chaucer, Surrey, Wyatt, Sidney, Raleigh, Spenser, Bacon, Shakespeare, Webster, Beaumont, Fletcher, Shelley, Ben Jonson, Milton, Burns, Hood, George Eliot, Mrs. Browning, Madame De Stael, the Bronte Sisters, Margaret Fuller, Mrs. Stowe and the Modern Novel, Tennyson, Longfellow, and Scotch poetry. Among all these great names there is no single one that the student of literature wants to miss, and nowhere will be found more concise and clear views of the true literary worth of each.

Prof. Fraser was an acknowledged master in literature. He combined scholarly abilities and culture, with a pure and popular style. He instructs and conveys information in the most pleasing and interesting way. His lectures afford a rare opportunity at a trifling cost, of acquiring a knowledge of great men and their writings, which will become more and more in good society a mark of refinement, and a test of general accomplishment. Those who aspire to write gracefully and accurately, will find this book invaluable. Price, $3.00. It can be obtained of the publishers.

INTERROGATORIES.

Colonies Close Together.—E. G. Haven, Belleville, Kans., on April 19, says:

I have 41 colonies of bees, and all appear to be doing well. Eighteen colonies were wintered in the cellar, and 23 colonies not on the summer stands, but were placed on a bench, close together, for the convenience of packing straw around them. They are all doing finely at present. 1. Will there be any harm in leaving them so close together during the summer? Or should they be placed further apart? 2. If so, what would be the best way of getting them separated, without their going back and being lost? 3. Is there any way to prevent the bees from gathering around the watering-tank where cattle drink?

1. Place them further apart.

2. Move them a little at a time. Jarring and smoking aid in causing the bees to mark their location anew.

3. It will be very difficult to prevent the bees from watering where they now do, unless the place is dried up, compelling them to seek another.

Tight Hive Bottoms and Covers.—F. Roulo, Portville, N. Y., on April 23, 1888, says:

Last fall I put 99 colonies in the cellar, and 59 out-of-doors packed in chaff. Both lots seem to have wintered equally well. Bees in this vicinity have wintered comparatively well; but they are affected considerably with the diarrhea, which I think is caused by so much cider being made here last fall. I put my bees out on April 17, and after reducing 6 by doubling up, I have 152 colonies left. I would like to have this question answered: Are not bees too warm with a tight bottom and cover on the 8-frame Heddon-Langstroth hive, at a temperature of 45°. Mine seemed to need more ventilation.

No; thousands of colonies are every winter carried through in perfect health arranged just as you mention. It is not more ventilation which your bees need. Very likely they are becoming overloaded with fecal matter, which is not caused by too much or too little ventilation.

Honey Candy.—C. H. Drummond, of Winslow, Maine, says:

I should like to ask, through the AMERICAN BEE JOURNAL, if any one will tell how to make honey candy, or is it *patented?*

The methods are not patented, but so far we have not been able to get a formula for publication. When we do, such will appear in the BEE JOURNAL.

QUERIES & REPLIES.

Are the Zinc Queen-Excluders a Disadvantage?

Written for the American Bee Journal

Query 538.—Have you demonstrated in practice, that the zinc queen-excluder is a hindrance to the free passage of the bees from the brood-chamber to the supers? In other words, have you found any difference in the quantity of honey stored where such were used?—Mo.

No.—MRS. L. HARRISON.

No, to both questions.—A. B. MASON.

I never used a queen-excluder.—M. MAHIN.

I do not think that it is any hindrance.—A. J. COOK.

I have seen no difference in the amount of honey stored, by its use.—EUGENE SECOR.

I have not had experience enough to give a decided answer.—C. H. DIBBERN.

It has seemed to me that there was a difference, though I have not experimented largely in this direction.—J. M. HAMBAUGH.

I do not think that the zinc makes any difference in the amount of honey stored. If it does, I have not been able to discover it.—G. M. DOOLITTLE.

Summing up the advantages and disadvantages in its use, I find the latter over-balance the former; and I believe that I can get more honey when it is not used.—J. P. H. BROWN.

I have used the zinc queen-excluder so little that I cannot answer. The slat honey-board serves me for a queen-excluder.—C. C. MILLER.

I have demonstrated by the use of several hundred of them, and for three years, that they are not a hindrance.—JAMES HEDDON.

No. During the last season I had several colonies with queen-excluding honey-boards that stored more surplus than any colonies that did not have them; still I hardly think that the queen-excluder is to be credited with the difference.—R. L. TAYLOR.

I have tested zinc queen-excluders sufficiently to satisfy myself that they are a great advantage. I do not find that less stores are secured when they are used.—J. E. POND.

I have found no difference in the quantity of honey when using the perforated horizontal honey-boards. I have no doubt, however, that many persons fail to get the full benefit of the zinc excluders, for the want of the knowledge of the proper way to make and use them. There is practically no difference between the wood-and-zinc horizontal honey-board, and those made out of plain sheets of zinc, if the latter are rightly made, and all the departments of the hive are rightly made and adjusted. The difference is one of cost only. The perforated excluder is a success.—G. W. DEMAREE.

The zinc queen-excluders are no hindrance to the bees.—THE EDITOR.

What and How to Feed Bees in the Spring.

Written for the American Bee Journal

Query 539.—1. When feeding bees in the spring, what kind of sugar is best for syrup? Should the syrup be thick or thin? 2. When an inside feeder is used, should it not be removed from the hive every morning, and left on only at night? Would it not raise a disturbance among the bees to leave it on during the day? 3. Should the feeder be removed from the hive for re-filling, or should the syrup be poured into the feeder without removing the latter?—New York.

1. Standard "C" sugar made into a thin syrup. 2. No. 3. Let it remain. The less you disturb a colony, the better.—MRS. L. HARRISON.

1. Coffee A or granulated sugar made into rather thin syrup. 2. No. 3. It depends upon circumstances, and the style of feeder used.—DADANT & SON.

1. Granulated. 2. I would not remove it. 3. I would not use a feeder that had to be removed every time you filled it.—J. P. H. BROWN.

1. Granulated or coffee sugar. I should use about 2 pounds of water to 1 pound of sugar. 2. No; not if your hive is bee-proof. 3. Fill the feeder without removing it.—R. L. TAYLOR.

1. Almost any kind will do, but I use either granulated or coffee A, and make it a little thinner than for winter feed. 2. No, to both questions. 3. I would not use a feeder that had to be removed to fill it.—A. B. MASON.

1. Granulated is best. I would make the syrup much thinner than for winter use. 2. No. It is best to leave it where you will want it again. 3. No. It will be empty. Pour the syrup into it while on the hive, and save all this extra work.—C. H. DIBBERN.

1. Granulated sugar, and tolerably thick, if much is needed. 2. Leave it on. 3. Pour it in the feeder on the hive. Beginners need to proceed with some caution about the whole business of feeding.—C. C. MILLER.

1. Honey is better than any sugar when bees can fly freely. Granulated sugar is the most apt to be pure. 2. No; it will be well to leave it on all the time. 3. A properly made feeder should not need to be removed to be filled, and no contact with the bees is necessary.—JAMES HEDDON.

1. The purest is the best, but a good article of C sugar is good enough. 2. No. It will make no disturbance. When bees become a little accustomed to being fed, it produces no excitement in the hive. 3. That depends upon whether the feeder can be filled without being removed.—M. MAHIN.

1. I have had limited experience. I should not be particular if the bees appeared to like it. I would have the syrup about the consistency of honey. 2. It would not be practical to remove the feeder, if you were feeding many colonies. 3. It ought to be refilled without disturbing the colony.—EUGENE SECOR.

1. Granulated sugar syrup; though any kind will answer for spring feeding. 2. No; not necessarily. Not at all if it is the right kind of a feeder. 3. That would be according to the kind of feeder that you are using. One of the Shuck pattern is my favorite, which does not necessitate removal.—J. M. HAMBAUGH.

1. It makes little difference, but I prefer granulated sugar at any time. I have it rather thin, and I like to have it a little warm. 2. I never move it at all, until done feeding for the season. 3. I would not like a feeder that had to be removed. I prefer to leave it in place, and to have it so made that we can feed without disturbing the bees at all.—A. J. COOK.

I use diluted honey, or sugar syrup of the best granulated sugar. I prefer it tolerably thin. I feed at night, only in quantity sufficient for the day's needs, and leave the feeder on. It causes no trouble with myself. 3. I pour the syrup directly into the feeder without removing it. I can see no reason for taking the extra trouble caused by removing to fill it.—J. E. POND.

1. At all times of the year I use granulated sugar for feeding bees, when I use any, which is not very often. However, for spring feeding, C sugar will answer all purposes, and is preferred by some. Thin syrup is best. 2. Leave it in all the time, but feed only what will be used during the night. 3. Pour in the feed without removing the feeder, as syrup will not harm the bees if they do not drown in it.—G. M. DOOLITTLE.

1. I prefer the best unrefined New Orleans sugar, flavored with honey; and coffee A as next choice. The former excites breeding best of all, when the weather is warm. Granulated sugar is a good winter food for old bees, but is nearly worthless for stimulative purposes, as nearly every element in the sugar is destroyed by poisonous acids. 2. Have the covers tight, and leave the feeders on the

hive till done feeding. A close-fitting hive with a contracted entrance precludes all robbing. 3. Just pour in the syrup while the feeder is in position on the hive.—G. W. DEMAREE.

1. For spring feeding the syrup should be thin. Make it of A sugar. 2. Leave the feeder in place, but give the bees only what is necessary. 3. Refill the feeder while on the hive, and save the trouble of removing it.—THE EDITOR.

CORRESPONDENCE.

MANIPULATION.

Easy and Profitable in Well-Adapted Hives.

Written for the American Bee Journal

BY REV. L. L. LANGSTROTH.

Although I was present at the Detroit Convention of bee-keepers in December, 1885, where Mr. Heddon first called attention to the system of management with his "new hive," I heard him too imperfectly to get any adequate conception of his invention. My head trouble returning soon after, and lasting nearly two years, I lost all interest in bee-matters, and it was only in February last (my attention being recalled to this hive), that I was impressed with the idea that it might be a great step in advance, in practical bee-keeping. From the very start I saw that many *abuscd* the power of manipulation given by the Langstroth hive, because they tailed to see that progress lay in reducing the necessary manipulations to a minimum. In the latest work of our honored Dzierzon, his wonderful acquaintance with the habits of bees, seems, to Americans at least, to be greatly wasted upon a hive and system of management which would make our honey cost more than it would sell for.

To manipulate with whole cases of frames instead of by single frames, seemed to me a very wide extension of the principle so much insisted on in my first work on bees, published in 1853, that a hive ought not to require one single unnecessary motion either for the bee or its owner.

Influenced by such considerations, I determined to see the actual workings of the Heddon hive in his apiary at Dowagiac, Mich. As the weather on my arrival there was too cold to handle bees, I carefully studied the hive. From what I know of the habits of bees, and construction of hives, just as a short examination of a Munn hive shows me that it is worthless either for amateur or practical uses—so the longer I studied the Heddon hive, the stronger was my belief that it would accomplish what he claimed for it.

As soon as I could see bees handled in these hives, and could handle them myself, all my favorable prepossessions were fully confirmed, and knowing how little I could count upon the continuance of health, I felt that in justice to the public, as well as to Mr. Heddon, I ought to put this opinion on record, by writing to some of my bee-keeping friends.

I think that no one who knows how I was deprived of the legitimate fruits of my own invention, will be surprised that I should feel it to be *a positive duty* to use what influence I may have among bee-keepers, to secure for Mr. Heddon both the honor and the profit to which he seems, not only to me, but to so many of our best apiarists at home and abroad, to be justly entitled.

Suum Cuique—"TO EACH HIS OWN."

From my earliest recollections my dear father enjoined this as a sacred duty upon his children—and I believe that all who know what I have done and written in connection with bees, will bear me witness that I have not departed from the spirit of his teachings. It was this strong sense of duty to give honor to whom honor is due, which made me desire, even before I had any correspondence with Mr. H. about his hive, to go to Dowagiac and judge of it for myself. I will now describe some of the most important things that I there witnessed:

1. Before I saw the easy working of his frames (*even in hives which had been occupied for several years by bees*), with close-fitting uprights (I prefer this French term to our word, ends), I could not conceive how they could possibly be handled as rapidly or safely as the Langstroth frames. The propolis trouble alone seemed to forbid this. Judge of my surprise then to find, that by leaving no space for bees to get between the uprights and the cases holding the frames, and by keeping the touching surfaces of the uprights so closely pressed together by the thumb-screws, as to leave no joint open wide enough for bee-glue, he had actually reduced the propolizing propensity of bees to a minimum!

My knowledge of the trouble and delay in manipulating all the previous styles of close-fitting uprights, led me to think that it would be quite difficult to handle the Heddon frames. To find that I was mistaken on this point, was a greater surprise than the way in which the propolis difficulty was met. In handling Langstroth frames of the standard depth (and still more with deeper frames), bees are often hurt between the uprights and case—a thing impossible with the Heddon arrangement, while at the same time the uprights of his case—as they go down into the hive, when a frame is put back—only *push* the bees away instead of pinching them between their closing surfaces. When the Langstroth frames are put back, even by experts, it often happens that they must re-adjust the spacing, to get room for the last frame, whereas, the Heddon frames always go to their proper places. As a matter of fact then, the Heddon frames can be safely handled with more rapidity than any in previous use; thus securing all the advantages of close-fitting uprights without their old inconveniences.

2. I was actually charmed to see how quickly the queen can be found in this hive. There is really no place where she can hide behind either the uprights of the frames, or on any of the frame pieces, or on the combs, which by a single inversion of their containing case, have all been made to completely fill the frames. Alarmed, now, by the introduction of both light and smoke into such a shallow case, she usually glides at once to the bottom-board to hide herself between it and the bottoms of the frames. If she does not show up when the case is lifted off, she can, as I have seen, be readily shaken out from such shallow and uniformly straight combs, so as to be easily secured.

To catch a queen with so little trouble, and with no danger of robbing, seems almost too good a thing to be believed, until it is actually witnessed, and the mere thought that such a feat is possible, must recall to many of my readers their weary queen-hunts, in the old styles of hives, under the broiling sun, and with the hateful annoyance of robber bees.

3. Another important feature in this hive is the remarkable rapidity with which the exact condition of affairs, in the brood-chamber, can be ascertained. In less time than is needed to remove and replace a single frame in other hives, a Heddon brood-section can be lifted off, and from its being shallow enough to allow a good view of the combs from both above and below, even without shaking out the bees—the quantity of brood and honey, and everything else essential to be known, having been learned by a few glances of an expert's eye—the section may be replaced before any robbing can be done.

4. The shape, size and lightness of the parts composing this hive, greatly facilitate all necessary manipulations in the apiary, and must therefore make it peculiarly acceptable to all who for any reason wish to economize their physical strength. A weak person who cannot handle many hives needs it, and the strong man also needs it, that he may make all his strength tell, in the management of the largest possible number of colonies.

5. The simple way of holding the frames so firmly in place by thumb-screws, admirably fits this hive for safe transport. I use the word *transport* in its widest sense, so as to include every movement of any of the parts of the hive, from the simple lifting off of a section, to the carrying of a hive with bees for any purpose, to any distance, however short or long. I have seen a frame filled with comb, tossed about the room, and thrown out of a second story window—also a whole section of such frames slid, and even kicked about a room, and all without any injury to the combs.

6. I am strongly impressed with the great advantages, which seem to me must certainly be gained by one of the leading features of Mr. Heddon's invention and system of management, viz: the *divisible brood-chamber*—but as this is a point on which the season (April 17) gives me no opportunity to speak from actual observation, I relegate it to the many able bee-keepers who can speak from their own experience, remarking only that when capacious brood-chambers and surplus apartments are desired for any purpose, they can all be readily obtained in the best form, by the Heddon hive and system.

7. Perhaps there was no feature in the Heddon hive which surprised me quite as much as the facility it affords for the use of the extractor. Indeed, when I first gave it my attention, I was so ignorant of its scope, as to suppose that it was a conceded point that it could only be used profitably for the production of comb honey! This is one of the points where I cannot speak from my own actual observation; but those in Dowagiac, who have had the largest experience, affirm confidently, that, in a given time, they can actually extract more honey by the Heddon system than they could with their Langstroth hives, and give these reasons for their belief:

Nearly all the bees can be easily shaken out of the combs of the extracting sections, and these quickly carried to a safe place, where the few bees not shaken out, will soon leave them. The eight frames of a section may then be turned out in a standing position upon a table, by a single motion, their regular shallow combs uncapped with unusual rapidity, and all their contents extracted at the same time; and nearly all of this work can be done *under cover*. Need anything more be said on this subject, to those who have followed the tedious routine of shaking and brushing off the bees from each separate comb in the sun, and exposed to robber bees?

8. It need hardly be said to any good bee-keeper, who has carefully weighed the above points in favor of the Heddon hive and system of management, how greatly it reduces in an apiary the liability of robbing. Those who have the Heddon hives will have no use for any bee-tent, when they can so easily find the queen, or can shake out the bees from any section when necessary, to examine it at leisure under cover.

In reading this enumeration of benefits to be had from Mr. Heddon's invention, it might seem that if I have not exaggerated them, any one of a number of them must be

worth, to a person who handles many colonies, at least the price of an individual right to use his patent.

I can only say that I have sought to avoid all over-statements, and have, in addition to what I could see with my own eyes, questioned at much length some who have largely handled the Heddon hives, and have been from the beginning familiar with every step in the progress of his invention. I would therefore not be afraid to risk my reputation for sound judgment as to the great value of the forward step which he has taken, even if I did not know that my opinion accords so well with the experience of many who have had the opportunity to put the hive and system to the test of practical use.

It is proper that I should say before closing this article, that I have carefully examined the claims of the Heddon patent, and the reasons which have been thought by some to invalidate them. Neither my acquaintance with the literature of bee-keeping, nor my familiarity with our patent laws, nor any facts which have been alleged against the Heddon patent, lead me for a moment to question its validity.

History seems often to repeat itself. In my own day, how often it was declared to be enough to invalidate the claims of the first person who had invented a hive, which commended itself at once to those most largely engaged in the production of honey—how often, I say, it was thought enough, to show that some one before me, had used a frame in a bee-hive. It mattered nothing that I never claimed to have been the first to invent a movable-frame—that my frame and way of using it were fully described, and that the few frames which antedated mine were of no practical account—still the attempt was for many years persisted in (I sometimes shudder now at the bare recollection of those weary years), to persuade the bee-keeping public that my patent was invalid.

On all sides patents sprung up, *using*, BUT NOT CLAIMING the most valuable features of my invention, and one bee-paper, having then the largest circulation, went so far as to accuse me of perjuries, which, if committed, ought to have sent me, in my old age, to the penitentiary. Thus were the feelings of my wife and children outraged, and even where no credit was given to such atrocious accusations, many honest bee-keepers were so misled as to believe that they had a perfect right to the free use of my movable frames, or were induced to pay for infringing patents the money which would have provided amply for me and mine.

I do not think that the bee-keepers of this country will ever suffer a similar outrage to be perpetrated either against Mr. Heddon or any other honest inventor and *benefactor*.

928 Steele Ave., Dayton, Ohio.

BEES AND FLOWERS.

Benefits of Bees to Agriculture and Horticulture.

Read at the Fremont, Mich., Convention

BY GEO. E. HILTON.

From the very "pointed" argument used by the bee in self-defense, either real or imaginary, the masses believe that the sole occupation of the bee is to sting; and we often hear the remark that, "a bee will go ten rods out of its way, any time, to sting me."

Let us see if this be true. The bee, is never more happy than when hard at work, and at a time when honey is coming in rapidly. There is nothing stingy about them. At that time of the season I have taken from the hives hundreds of pounds of honey without the least protection of either smoke, veil or gloves.

Why is nectar placed in the flower or blossom? Is it necessary for the setting and maturing of the fruit? The scientific horticuturist says, No! Was it placed there for the bee? Again the scientist says, No! Then let us examine the mysterious construction of the blossom, and see if we can solve the problem.

The blossoms are composed of one or more leaves called petals. The base of this is called the corolla, and there, as a rule, nectar is deposited. The stamens or pollen-bearing stems—in other words, the male organs of the plant—protrude beyond this nectar, and in order for the bee to secure this much coveted sweet she must brush by these stamens, and to a greater or less extent the pollen adheres to the legs and body of the bee. It no sooner drains the cup that Nature has filled for a two-fold purpose, than it hies away to another, and here is where the wise economy of Nature is being performed. The bee in coming in contact with this second blossom, mingles the pollen of the two, impregnation takes place, and all fruits and vines are made to bring forth fruit, "each after its own kind." If any doubt this assertion, next spring when your fruits, vines and clovers blossom, just before they open, with a bag having the meshes small enough to exclude insects, see how much fruit and seed you get from the blossoms thus treated.

In the West, in some sections where the bee and hornet do not exist, they fail to raise pumpkins, for the want of something to fertilize the blossoms. In some of the mid-ocean islands they could not raise red clover seed until they imported bumble bees to impregnate the blossoms. Now the Italian bee is aiding in this grand work.

The bee is the friend of horticulturists and agriculturists, and as there is no insect that increases in such vast numbers so early in the spring when their services are so much needed, they are of more value to the farmer, gardener and fruit-grower than all other insects.

A man near Boston makes a business of raising cucumbers for the winter markets. I am informed that he has several acres under glass, and until within the past few years he did all the fertilizing by hand. This was a most tedious and expensive piece of work, reducing the profits to a minimum. But now in each section of this vast winter garden, he has a colony of bees, and while the mercury is sporting with zero outside, these little helpers are gathering honey from cucumber blossoms, and at the same time doing the work of many hands; and one great advantage is, that they do their work so much better. The proprietor says that by the old method they never succeeded in fertilizing over 50 per cent. of the blossoms, but that the bees fertilize at least 80 per cent, thus advancing his industry from a basis hardly paying expenses, to one that is profitable.

I might dwell for hours upon things connected with this very interesting pursuit, but I will not tire you, for what may seem interesting to me may be idle talk to you; but let us learn a lesson from the bees to do all the good we can in this life. The bee that gathers the nectar from and fertilizes the blossoms, never lives to consume the honey stored for the winter months; but toils on uncomplainingly, and if the season be favorable it not only stores sufficient for the winter's supply, but a surplus sufficient to compensate the bee-keepers for the attention given during the summer months besides, and giving us the only pure sweet known to the civilized world.

Fremont, Mich.

EKE HIVES.

What they are, and What they are Used for.

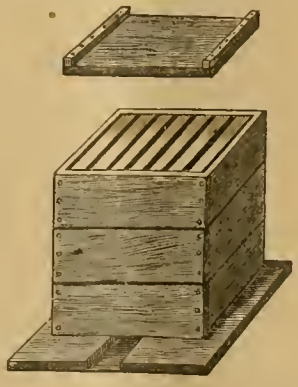
Written for the American Bee Journal

BY CHAS. DADANT.

Although my description of eke hives on page 199, seemed to me very plain, the editor advised his readers to see comments on page 197, where he says:

"An 'eke' is a small additional story (generally a half story) placed under a hive to add to its capacity." And further: "These ekes and nadirs bear no relation to a brood-chamber that is divisible, and should not be confounded therewith."

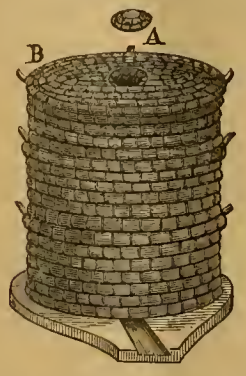
To show that a hive raised with an eke is not an "eke hive," and that



eke hives were formed of divisible brood-chambers, as I described them, I send engravings of divisible brood-chambers; of which we have procured the electrotypes, with many others representing hives of the old country, which will appear in the new book, "Langstroth revised." One engraving shows a square hive formed of three ekes. The hive has 7 combs, and cannot hold more than a hive with seven Langstroth frames. Then the three ekes are about of sufficient capacity to satisfy partisans of small hives.

If this is not convincing, I will refer to the AMERICAN BEE JOURNAL for 1866, page 72, in an article written by our lamented Samuel Wagner: "All these sections or ekes are of *equal size*, without bottoms, and with an opening 6 inches square in the top. The bees, thus provided....will usually fill two or more such sections with combs, *brood*, and honey." On page 85: "The mode of dividing stocks [to make artificial swarms] by severing one or more ekes or sections from a hive, should be condemned and rejected, causing a lamentable destruction of bees and *brood*."

The other engraving shows a Soria "eke," with spaces. It is easy to



notice that the bars to support the combs, in this eke, are placed a little below the side of the eke, to afford a space between two ekes or sections, *a la* Heddon.

As soon as the book of Soria was published, about 43 years ago, a friend of mine, a notary in my village, was so enthusiastic about changing, inverting, etc., of these ekes, that for two years he hived his swarms in Soria hives. But these spaces, cutting the combs horizontally, interfered with the laying of the queens, and the crop was thereby decreased.

How many times in my career of bee-keeping, have I seen such inventions praised for several years, then disappear! The Soria hive was not alone to receive such acclamations of short duration; the Debeauvoys hive was awarded medals on medals, and its inventor published six editions of his book! Where are these hives now? I dare say that, in the whole of France, it would be impossible to find even *one* specimen of them. I was able to appreciate their qualities and defects. The "eke hive" was easy of manipulation for the bee-keeper, but hindered the laying of the queen. The Debeauvoys was good for bees, but difficult to manipulate. Other bee-keepers of France and Germany invented vertically-divisible brood-chambers, which, praised also for years, have disappeared before the movable-comb hive.

Most of the partisans of the new Heddon hive, using, as he does, Langstroth hives, reduced to 6 or 8 frames, are unable to see whether the laying of queens is hindered by the spaces between the ekes; for, in their small Langstroth hives, the laying is even more decreased; therefore, they may answer, with full confidence, as they did in the AMERICAN BEE JOURNAL, on page 54, that they do not consider the bee-space an impediment to the laying capacity of a queen.

Mr. R. L. Taylor, in answer to the question on page 39, on the influence of the spaces on the number of bees, in comparison with hives having full combs, writes that one of his colonies in the new Heddon hive produced, of comb honey, five times the average of his apiary, and about twice as much as the best of his colonies in Simplicity hives, and it was because of their numbers that they did it. Of course, as the veracity of Mr. Taylor cannot be questioned, such a result struck me dumb. All my experience—all my theories on bee-culture—had to be put aside, and I had to study the principles of the new school. A hard task for a man of my age!

But I never accept what is seen at the surface without looking at the bottom of things. What did I see in this case? The Heddon hive of Mr. Taylor, containing 16 half frames, offered to the queen a surface of $16x17\frac{1}{4}x4\frac{7}{8}$, or 1,344 square inches, while his 8-frame Simplicity had but $8x16\frac{3}{4}x8\frac{1}{2}$, or 1,136 square inches. This difference of 208 inches, offered to the queen of the Heddon hive, about 12,000 more cells, in which she laid 12,000 more eggs every three weeks. (See Feb. 8, page 85.)

Mr. Taylor was mistaken in putting to the credit of the spaces between the ekes, that which was the result of the enlarged size. No doubt the same mistake was made by Mr. Heddon, for his new hives contain 20 half frames, or 1,780 square inches, while his Langstroth hives contain but 8 frames, or 1,136 square inches. The difference is 644 inches, or 36,000 more cells.

These facts not only are in favor of enlarging the hives, but they answer also to the new, and, to my mind, strange idea of Mr. Hutchinson, that "It does not matter if our queens are hindered in their laying, for we do not make hives simply for the convenience of the queen." (See page 54.) According to my experience the convenience of the queen is the convenience of the bee-keeper, for the more our queens lay, the more bees are in the hive for the harvest.

The crop of Mr. Taylor would have been increased, had most of his colonies been as populous as the one which gave him this large harvest. Then it is profitable to provide our queens with the means of laying abundantly, and to feel happy. But nothing is better than a large brood-chamber to attain such a result.

Hamilton, Ills.

[Knowing that our readers were not familiar with the "ekes" and "nadirs" used in Europe, and mentioned by Mr. Dadant on page 119, we copied from the *British Bee Journal* an explanation of these terms simply for general information. Perhaps that was unnecessary, as our friend Dadant intimates—thinking that he made the matter sufficiently plain. We certainly had no *intention* of interfering with, or taking any part in the discussion on hand.

Quoting from the AMERICAN BEE JOURNAL for 1866, pages 72 and 85, Mr. Dadant says that those articles were written by "our lamented Samuel Wagner." By referring to page 9 of that same volume, it will be seen that Mr. Wagner credited those very articles to "an experienced and intelligent German"—he would not thus refer to himself.

As to the engravings in Mr. Dadant's article—the first shows the French hive of Palteau, which had fixed bars or slats, the surplus honey to be cut out of any section desired by the bee-keeper.

The second engraving represents a Soria hive which shows a principle which was used in a hive with round sections without movable frames, figured and described in Hartlib's "Reformed Commonwealth of Bees," published in London in 1655, and mentioned by us at the Indianapolis Convention in 1886. (See the report on page 663.)

Certainly neither of these, nor the "ekes" and "nadirs" described by the item we copied from the *British Bee Journal*, are the same as a complete interchangeable brood-chamber, having the movable frames. Neither are those described by the "German" author on page 85 of the AMERICAN BEE JOURNAL for 1866—for such "ekes" required to be cut off "by means of a *thin wire*." Such "sections or ekes" were "without bottoms," and had "an opening six inches square in the top"—differing materially from

complete sectional brood-nests provided with frames, which are all movable and interchangeable at will!

But all this is a friendly chat on the *definition of terms*, having no reference to the discussion on the *desirability of using* large or small hives, or sectional brood-chambers. In that discussion we shall take no part. The average honey crop of our friends Dadant being over 20,000 pounds, they are abundantly qualified to argue upon the best size of hives for use, and are able to give an opinion of value to producers of honey.—ED.]

HONEY-BOARDS.

How they Should be Made and Used.

Written for the American Bee Journal
BY J. M. SHUCK.

This honey-board consists of nine slats of clear, straight-grained white pine ¼ of an inch thick. The two outside slats are about 1½ inches wide, and the seven inside ones are about 1¼ inches wide; they are as long as the hive that they are to cover, and the nine slats are intended to cover a brood-chamber 1 foot wide, and two side walls ⅞ inches each in thickness.

These slats are held together by two pieces of heavy galvanized iron, one edge of which is folded at right angles ¼ of an inch, to cover the ends of the slats.

These honey-boards are nailed together in a cast-iron frame, bed-plate and clamp combined, so that the board may be true and properly spaced when done.

How to Nail Honey-Boards.

Lay the nine slats into the nailing frame; then lay on top of the slats the two end-pieces of galvanized iron, with the folded edge down and covering the ends of the slats; now put in the "spacers"—these are steel checks about an inch long, about ⅝ of an inch wide, and 5-32 of an inch thick; they are held loosely upon a polished steel rod, so as to be handy, and not get lost; two of these rods are used, one near each end of the honey-board. After seeing that the spacers are in place, bring up the "following-bar" at the end of the board, and also the one at the side of it snug and close, and you are ready to nail.

Make holes in the galvanized iron with a prick-punch, and nail with ⅞-inch wrought tacks, or clout nails. Nail carefully, or the slats may split; when the point of the nail has touched the cast-iron bed-plate, tap lightly three or four times, and the nail will turn back into the wood, when it may then be driven "home" without splitting. Drive two nails in each end of each slat, and a nice, light, stiff queen-excluding board, only ⅛ of an inch thick, is the result. No perforated metal is needed, as the wooden one will be found to render better satisfaction in every way.

This honey-board is not on the "sink break-joint" principle. I get the bee-spaces all in the hives and supers themselves, so that when a hive or super is placed on any plain board, the bee-space prevents the wholesale slaughter of bees. This board placed upon an 8-frame hive, with the frames accurately spaced 1½ inches from center to center, would "break joint;" but when frames are not accurately spaced, the "break-joint" theory will in a majority of cases be at fault.

I take some pride in *my* honey-board, and can show some rich, dark specimens ten years old; yet, if any one wishes to improve upon it, either with or without my permission, he is welcome to do so.

Des Moines, Iowa.

SWARMING.

Do Bees Select a Home Before Swarming?—Rearing Queens.

Written for the American Bee Journal
BY J. E. POND.

I certainly do not wish to say anything that will tend to cause an unprofitable discussion, but the above question is one of some interest and importance to beginners at least, and any light given them may be of value. Whether bees ever select a home before swarming, is one that probably no one can answer, as their vagaries are such, that the facetious remark of the late Mrs. Tuttle, viz., "Bees do nothing invariably," may be taken as an axiom.

In my own experience I do not find that bees do select a new home before swarming. If they did, there would be no protection whatever, in my judgment, against leaving the new hive after being placed therein. My own belief, based on my own experience, is that as soon as the swarm settles, pioneers start out to find a new home; if they succeed in so doing they return and take the swarm with them. For this reason, I believe, that all swarms should be hived as soon as they have settled, and when this is done, I have no more trouble with their leaving the new hive.

It is true that no one can determine accurately, when a newly-hived swarm leaves the hive, whether they selected the new home before or after they swarmed; but I think that if the rule is followed, of hiving all swarms as soon as they fairly settle, but little trouble will follow.

My advice to beginners, who depend upon natural swarming is, to watch the apiary closely during the swarming season. Keep constantly prepared for issuing swarms, and hive them as soon as they have fairly settled. By so doing I believe they will find less trouble than in any other way.

Rearing Good Queens.

Much that is written in regard to good queens is misleading to the beginner. One bee-keeper writes that "good queens are only reared while the colony is under the swarming impulse;" another, "that it makes no difference whatever, whether they are reared under such an impulse or not." I am on record as urging the rearing of better queens, rather than poorer ones, and I fully believe that any method that will bring about this result is to the advantage of all.

There is no question that good queens can be reared in both ways. The evidence is full and complete that this is true. Every breeder of queens knows this, and has proved it time and time again; and for this reason I believe that we must depend upon the honesty and integrity of the breeder from whom we purchase our queens, rather than upon the matter whether he rears his queens under the swarming impulse or otherwise. All we need to do is to follow nature's law, in a natural way.

It is natural for a queenless colony to rear a new queen, and equally natural for it do so, as to rear a queen when the swarming fever seizes the colony. This being the case, who is to say in the face of the existing state of things, that one queen will prove better than another, simply because natural laws are followed in one direction rather than in another?

My own view of the matter, based on my own experience, is this: If the queen is removed from a full colony, when honey is coming in freely, or if such is not the case, the colony is regularly fed in small quantities, equally as good queens are produced, as when the swarming impulse causes the queen production; and I have further found, that by the misnamed "artificial method" of rearing queens, there is far less risk of producing from 10 to 13 day queens, than under the swarming fever; and this for the reason that we can know positively and absolutely whether our queens are reared from

the egg,or from larvæ from 3 to 4 days old.

After all, however, the matter comes to this point: If the bee-keeper depends upon the queen-breeders for his supply of new queens, he must select those upon whose honesty and integrity he can depend.

North Attleboro, Mass.

STARK COUNTY, O.

The Bee-Keepers Meet in Regular Convention.

Written for the American Bee Journal
BY MARK THOMSON.

According to adjournment this Society met at Canton, O., on April 11, President Oswalt in the chair.

After approving the minutes of the last session, receiving J. R. Roebuck into membership, and deciding that the membership fee received at any other time than at the annual meeting in April, should apply only until the next April meeting, Messrs. J. A. Taber, A. Zimmerman, and W. S. Kline were appointed to draft resolutions relative to Mr. John M. Mowe, a member who had died since the last meeting.

Reports from the Apiaries.

W. S. Kline put 25 colonies into winter quarters, and lost 2, which were queenless in the fall. His bees in chaff hives on the summer stands came through in the best condition. One colony placed in the cellar early in the fall, seemed to winter the best of any.

J. A. Taber had 35 colonies and one nucleus in the fall. The nucleus had no chaff cushion on top, and it died, but the remainder are in excellent condition. His bees were wintered on the summer stands.

H. O. Best had 13, and lost none. They were wintered in the cellar.

M. Chamberlain had 19 colonies in the fall, and lost one. They are in good condition.

Mark Thomson put 13 colonies into the cellar in the fall, and all but one came through in good condition. That one was queenless.

A. Zimmerman said that from his four years of experience he favored cellar-wintering, and that he had never lost one thus wintered. He did not think that bees wintered outside were any more healthy than those wintered in the cellars.

W. M. Sweany had 40 colonies, and succeeded in carrying 35 through the winter. He put 5 into the cellar, 4 of which starved, and the other one came out very weak. Those on the summer stands were in chaff hives. He said that it was possible to put too much packing on the top of bees, and in proof of this he had fixed one up specially well, as he thought, but it died with the diarrhea.

Mr. Trook had 8 colonies; he left them on the summer stands, and 2 weak ones died.

A. McKinney left 13 of his colonies on the summer stands, and put one into the cellar. The one in the cellar died.

Mrs. Pellon spoke of a colony in a box-hive, belonging to a neighbor, protected by a shed, which was quite lively, and in good condition. Her bees had wintered well, so far as she knew.

Mr. Chamberlain said that he believed in center ventilation, by means of a hole in the bottom of the bee-hive, covered with wire-cloth.

Mr. Roebuck lost several by neglecting to feed them enough in the fall; he did not feed them until October. He had 69 colonies (50 in the cellar, and 19 on the summer stands); 7 of those in the cellar were dead by March 15, when he took the balance out, and within a week 9 more died. Those in the cellar were nearly all weak.

Mr. Roebuck asked Mr. Zimmerman how his hives were arranged in the cellar. Mr. Zimmerman said they had a thickness of burlap over the frames, and a board on top of that, with the entrances wide open.

Mr. M. R. Welker packed 14 colonies on the summer stands, in single-walled hives, with chaff cushions on top, with a wind-break of straw. He lost only one nucleus. The others are in good condition, with some drones flying.

Mr. Kline said that the presence of drones indicated a drone-laying queen.

Mr. Oswalt's bees were wintered on the summer stands in Falcon chaff hives; the inner side of the outer-wall and the inner side of the bottom being lined with paper. He lost 3 colonies before winter began. He thought that was caused by the lack of late breeding. He had fed some rye flour, and put candy over the frames.

The afternoon session was opened at 1:20 p.m. The members paid their dues, and the following were elected officers for the ensuing year: Jacob Oswalt, President; Henry Beatty, Vice-President; and Mark Thomson, Secretary.

Various Bee-Questions and Answers.

Questions were answered as follows:

"Would you use 10 frames or less for comb honey?" Mr. Beatty said that he used 12 frames. Mr. Kline thought that 8 frames were enough. Mr. Taber said that he used 11 frames, and had produced as high as 125 pounds to a single colony.

"Do young bees which had no flight in the fall, winter as well as older ones?" Mr. Beatty said that it made no difference.

"Do bees eat rye flour, or make pollen of it?" Mr. Sweany said that he fed common wheat flour, and that the bees used a great deal of it.

"Is it considered favorable for drones to be found in the hives as early as April 1?" Mr. Chamberlain said that it depended upon whether there was drone-comb in the brood-nest or not. Mr. Kline said that he thought it was of no advantage, unless you wished to rear queens early. Mr. Beatty said that he had had drones flying on March 20, from strong colonies. Mr. Waits said that if a colony is strong and in good condition, drones might be seen early.

"What time would you commence to rear queens?" Mr. Beatty said, as soon as the colonies are strong enough to divide.

"What would you put on after the chaff cushions are taken off?" Mr. Chamberlain uses oil-cloth. Mr. Beatty uses duck. Mr. Kline thought that a board was as good as anything. Mr. Taber preferred a honey-board the size of the top of the hive, with two auger-holes with glass over them.

"What is best to be done with a queenless colony having laying workers?" Mr. Waits advised giving them a queen. Mr. Beatty would give them brood and let them rear a queen. Mr. Sweany would unite them with another colony.

The convention then adjourned until Aug. 21, 1888.

MARK THOMSON, *Sec.*

FOUNDATION.

Experience in Making Foundation with Molds.

Written for the American Bee Journal
BY RANDOLPH GRADEN.

On page 23, Mr. G. M. Doolittle says: "Can it be that few, if any of our apiarists are using molds for making foundation? And if such is the case, why are they not using them?" Perhaps they were not more successful than I was in making molds.

When I first heard of molds I procured a perfect sheet of foundation, and soon had very good molds made. But in making foundation, I did not follow the directions which Mr. Doolittle has given, as that would seem almost impossible to me. The way that I made foundation on the molds, was almost the reverse of the way that Mr. D. describes.

I put the molds into warm water some time before using, and when they

became quite warm, I placed them over a tub of cold water to catch the wax that would run over the sides of the molds. Then I opened the molds and poured on the melted wax, and closed them. But in cold weather the molds would soon get quite cold, and the hot wax would harden as soon as it touched them; and as soon as the molds were closed, it could be again opened; but on account of the wax cooling too quickly in the molds, it would be all cracked, and the sheet would have to be again heated.

Perhaps my molds were too thick, as the sides are ⅞ of an inch. Or perhaps the wax is not as it should be; but I used it as it comes from the wax-extractor into warm water to settle and cool.

I can make foundation on the molds quite as nice as that made on the mills, but it is slow work, and the molds must be neither too warm nor too cold. If I were to insert the molds into ice-water, the sheets of foundation would be so badly cracked that they could not be lifted from the molds without being torn into pieces.

Mr. Doolittle does not say that anything except water is used to prevent the wax from adhering to the molds. He must use wax at a boiling heat, or it would harden as soon as it comes in contact with the ice-cold molds, and the mold would be used more as a press than a mold. Cannot some who have been equally as successful as Mr. D., give us their way of making foundation on molds?

Taylor Centre, Mich.

LARGE HIVES.

The Large Hives vs. the Small Hives.

Written for the American Bee Journal
BY W. J. DAVIS.

I have just re-read my article on page 170, also Mr. Dadant's article on page 247, and I confess that I cannot see anything in the former that could in any way remind any one of the objections made 25 years ago, to the movable-comb hive. That such objections were made, I do not doubt, but the connection between those objections, and my own experience with different sized hives, I fail to see.

I have had an experience of 40 years, and with several apiaries a part of that time, running from 200 to 350 colonies, with almost 28 years with movable-comb hives, and using division-boards ever since adopting the movable-comb system. If experience is of *any* value, I at least ought to know how it works in this immediate locality.

While I have no desire to promote any controversy on the question as to the proper size of a bee-hive, preferring that the bee-keeper should use just the kind and size of hive he chooses, I trust that Mr. Dadant will allow me a good laugh, for pronouncing me "guilty of a neglect" in not providing division-boards for winter, and then proceeding to prove how bees had wintered, 1 colony for 7 years, and another for 27 years, in a very large hive, when contraction was not thought of. Let us see. How large was that hive? As large as 10 Langstroth hives—or 2½ sugar barrels, or, say 10 bushels. Now that *was* a whopper (the hive, I mean).

I wish to say further, that I have no ax to grind on the hive question; I make my own hives, and spoke of the smaller hive as I prefer them in my home apiary. In my house apiaries, away from home, I use 12 of the shorter frames per hive in one, and 8 standard Langstroth frames in another apiary.

The year 1886 was emphatically a swarming year in this part of the country, and I ran out of hives. In one of my out apiaries, I instructed the man in charge to procure boxes of any kind to secure the swarms, and I found, among the rest, two that were only 10½ inches square, by 8½ inches deep, or about 892 cubic inches. They appeared heavy for the size of the boxes. They were brought home in the fall, and at the usual time were placed in winter quarters with others, and wintered perfectly. The bees in them were transferred in the spring, and were prosperous colonies. Other swarms were hived in large boxes, had double the comb, and more bees, but not half as much honey. My observations reduced to words, would be about thus:

Two swarms of equal strength, hived on the same day, with a honey harvest of 30 pounds each to gather above their daily rations—one is hived in a box of 1,000 cubic inches, and the other in one of 2,000 cubic inches—each will fill its hive with comb, and at the close of the harvest the smaller will have 20 pounds of honey, and the larger but 10 pounds.

Backward Spring in Pennsylvania.

The spring here is cold and backward. The grass in spots begins to show the green. Not a drop of honey or pollen has been taken in yet (April 19). I use both the standard Langstroth and the shorter frame in my home apiary, but my strongest colonies are in short-frame hives.

Youngsville, Pa.

SWARMING OUT.

The Cause and Prevention of Bees Swarming Out.

Written for the American Bee Journal
BY JOHN S. REESE.

The time for swarming has arrived here (March 12), and the past few days has afforded ample opportunity for verifying my belief that I knew the true cause of the abominable freak of "swarming out," and, to give a lucid idea, I will state the facts just as they occured.

About 2 p.m. on Feb. 21, the sun had so warmed up the hives that my 20 colonies of bees all seemed to be enjoying a general flight; when I observed 1 colony (a rather weak one) sending out more bees than any of the others, and some excitement at the entrance, and on stepping quickly to it I saw the queen running about on the alighting-board in an excited manner. In a few moments she re-entered the hive, and just then I took off the cover and packing, and found the four combs almost deserted of bees, but every thing was sweet, clean and warm, and there was plenty of honey. There was a small patch of brood from the egg state to that just being sealed over, and no evidence whatever that any bees had hatched so far this year. By this time the flying bees came tumbling back to their home and queen.

Now just at this time another weak colony, near by, started to go through the same performance, and I got to their entrance just in time to catch the queen in the act of taking wing, and an examination of this hive revealed exactly the same state of affairs as the first—a small quantity of young brood, but no young bees to remain with the queen, while the old bees were out for their first general flight.

The remaining 18 colonies are strong enough to have young bees hatching, and will not "swarm out." We of course know that bees will *desert* their hives for want of stores and other causes, but what is known as "swarming out" is most likely to occur with weak colonies only, and may be prevented by the use of queen-excluding entrance guards, but they should be arranged in such a manner so that the bees cannot clog the entrance in their efforts at "spring cleaning."

Winchester, Ky.

A Modern Bee-Farm, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

May 5.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.

May 7.—Welland County, at Welland, Ont.
J. F. Dunn, Sec., Ridgeway, Ont.

May 8.—Keystone, at Scranton, Pa.
Arthur A. Davis, Sec., Clark's Green, Pa.

May 8.—Cortland Union, at Cortland, N. Y.
W. H. Beach, Sec., Cortland, N. Y.

May 19.—Nashua, at Nashua, Iowa.
H. L. Rouse, Sec. Ionia, Iowa.

May 22.—N. W. Ills. & S. W. Wis., at Rockton, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

May 31.—Wis. Lake Shore Center, at Kiel, Wis.
Ferd. Zastrow, Sec., Millhome, Wis.

Aug. 3.—Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Pollen from Skunk-Cabbage.—G. M. Doolittle, Borodino, N. Y., on April 19, 1888, writes:

The first pollen was gathered to-day from skunk cabbage, which is our earliest pollen-producer. The mercury is at 48°, so that very few bees are flying, and when the sun goes under the clouds, these pollen-laden bees fall to the ground and stay until the sun again comes out and warms them up. One day the last of March, the mercury went up to 58°, which gave the bees a fine flight; otherwise it has not been to 50° this year.

Bees Wintered Poorly.—C. W. Baker, Martinsville, Mo., on April 13, 1888, writes:

I began the winter with 12 colonies of bees, unprotected on the summer stands, except that I banked the snow around them when there was enough to do so. Three colonies are all that I lost, and two of them were late swarms. But almost all of the bees in this country are dead, or at least 75 per cent. of them.

Not Overstocked with Bees.—J. V. Caldwell, Cambridge, Ills., on April 19, 1888, says:

Bees have wintered in poor condition in this part of the country, and we will not be overstocked with bees this year. The prospect for a good honey season is not promising, to say the least. White clover was nearly all killed by the drouth last season, and unless we get much rain our crop will be a failure. Last season I obtained only 40 pounds from 200 good colonies.

Method of Rearing Queens.—D. P. Barrows, Nordhoff, Calif., on April 17, 1888, writes:

On page 252, Mr. G. Crouse asks how to rear queens. I would suggest this method, which I have used, and have seen used, with satisfaction:

Take two or three combs from an Italian colony, or as nearly pure as possible (providing the colony is strong, and the bees in good, normal condition), well covered with bees, and containing honey, larvæ and eggs young enough to produce queens, or under four days old. Place these in a hive, partitioning it off with a division-board to a suitable size. Place this new colony on the old stand, first removing the original colony to a new location. The bees in the new hive, finding that they have no queen, will form embryos, and rear new queens.

Then two or three days before the young queens emerge, place the embryos in the queenless hives, and those needing new queens. Care must be taken to have the hive warm and tight, and the bees well provided with honey.

When all the colonies are supplied with queens, leave an embryo in the "queen-nursery," and you will thus have the queenless colonies remedied, and a new colony besides.

Many Colonies have Starved—Thos. C. Stanley, Boyleston, Ills., on April 21, 1888, writes:

Last year 15 cases (about 300 pounds) was our crop of honey from 250 colonies, spring count. Perhaps there was a barrel or two of extracted honey, had we taken it out, but we never count it. Many bees are starved out through the country—I should say 50 per cent. I always keep a supply of honey on hand for such seasons, and consequently suffer no loss from that cause. But there is a cause from which we have lost heavily for three years.

Storing Pollen—Alsike Clover.—J. H. Stanford, Cherokee, Iowa, on April 12, 1888, writes:

I am happy to report that my bees have survived the terrible blizzards of the past winter, and are now gathering pollen from maples and willows. My new bee-cellar, built according to Dr. Miller's instructions, has proved to be a success so far. The temperature of the cellar has not varied more than 4° this winter, and at no time above 38°. I planted six acres of Alsike clover last spring, but very little of it has come up, as it was very dry here last summer. Can any one tell about Alsike clover seed growing the second year? I know that white clover seed will lie in the ground for two or three years, and then grow. I increased my bees from 12 to 29 colonies in 1887, extracted 775 pounds of honey, and took off 50 pounds of comb honey. I sold the extracted honey for 12½ cents per pound, and the comb honey for 20 cents a pound.

Keeping Bees in Houses.—J. H., of Ohio, on March 6, 1888, writes thus about houses for bees:

In an article by Mrs. L. Harrison, on page 57, she says that all attempts at keeping bees in houses have been failures, with one exception, which is pronounced a success, and that is 'patented.' I do not know what kind of a house she can mean.

When I was young and at home, my father used to keep from 4 to 6 colonies in a shed (open in front only), in the old-fashioned box-hives, 14x14 inches, and 2 feet high. He kept them thus for many years, until high water once destroyed them all. After that he built a room in the garret about 6 feet square, putting the hives on a frame 18 inches from the floor, and taking a brick out of the wall for an entrance to the hive.

The hive was a three-section hive, each section 14 inches square by 10 inches deep. He would take off one or two top sections each year, and fill one or two milk pans with nice, white honey. They never swarmed, and it was a very large colony in time. They were there for five or six years. He would go up and sweep the room out once a week. They built the comb all over the hive, and the frames to the floor, and loaded them so heavily that one day it fell to the floor in a heap, losing the bees and all. My brother built a room of the same kind two years afterward, and had the same misfortune, and lost his bees in the same way.

Where I now live the water in 1884 was 10 feet deep in my yard and garden, so it is not a very good place to keep bees in my cellar. I have had one colony in the garret for two summers, in a sectional frame hive; but it is too much labor to go up two long stairs to see them, so I shall move them down to my bee-house that I have been building for them. The room is 7½ feet wide, 20 feet long, and 7½ feet high. I do not see why they should not do well in it, as I can pack them well for winter.

Ionia Co., Mich., Convention.—Harmon Smith, of Ionia, Mich., the Secretary of the Association, sends the following report:

The adjourned meeting of the Ionia County Bee-Keepers' Association was held in the office of Oscar Talcott, at Ionia, Mich., on April 18, 1888. It was called to order by Chairman J. H. Robertson, with Harmon Smith acting Secretary. Seventeen members reported 929 colonies put into winter quarters last fall, and a loss of only 42 of that number in wintering.

After deliberation and interchange of views on various matters, Mr. Robertson introduced a printed constitution, practically agreed upon at the March meeting, which was adopted. Copies of it may be had of the Secretary, upon paying a membership fee of 25 cents.

The following officers were elected: President, J. H. Robertson; Vice-Presidents, A. H. Gurnsey and Wm. H. Penny; Secretary, Harmon Smith; and Treasurer, Oscar Talcott.

After a profitable and pleasant exchange of views among the members, the convention adjourned to meet at Ionia, on Aug. 3, 1888, with a request to all the bee-keepers of the county and vicinity to meet with them, and bring in full reports of the summer's products, and become members of the Association.

That Ontario Convention.—Dr. A. B. Mason, Auburndale, O., writes thus:

> "O wad some power the giftie gie us
> To see oursels as ithers see us,
> It wad frae mony a blunder free us,
> And foolish notion."

When I saw the above quotation in one of Mr. W. F. Clarke's articles in the AMERICAN BEE JOURNAL last summer, while criticising Dr. Miller's position in regard to the desirability and practicability of bee-keepers getting the control of a limited area as pasturage for bees, I thought, "O how I *do wish* some power would take some of the egotism out of some writers, and lead them to make Burn's words their most earnest prayer, and that it might be heard and answered." Evidently it *is* "possible for a man to misunderstand himself," or the above lines would not have been penned by Burns. From his writings, I have no doubt that Mr. Clarke speaks the truth when he says, "I can afford to be pooh-poohed, and I rather enjoy the fun of tormenting prejudiced unbelievers." In reading the report of the Ontario Convention (see page 72), I thought it was unusually *good*, and since reading Mr. Clarke's criticism, on page 104, I have re-read it, and now it seems better than it did at the first reading. If the report is a "lop-sided affair," I hope some one will give us an equally good

report of next year's meeting, and put in as many more "of the most interesting discussions" as possible. As an interested, but unbiased "spectater," I cannot see the truthfulness of the assertion made in the fifth, sixth and seventh lines of the article on page 104. The reporter did say something about making a cellar somewhat like that of J. Aipaugh's, and I believe I am *glad he did.* Mr. Reporter, please give us some more "lop-sided" reports. What is there bad about that "father-in-law?" He is respected and honored by the Ontario bee keepers, and was elected President of their association, and was so unfortunate as to be chosen as one of their commissioners to the Colonial, and also chairman of the commission; but he has been annoyed and badgered until life is almost a burden. What did he do at the Ontario Convention that should merit such an insinuation? He presided over the convention and delivered the "annual address," which is published in the report, and Messrs. Macolm and Hall also have essays in the report.

I gather from the few words reported, that Mr. Clarke was opposed to the use of the honey extractor at all, and if that is a correct inference, it is nothing new, for he has done the same thing before, but it did not get into the "report" to suit him.

Mr. Clarke says, "My own preference for comb honey is shared by me with some of our best and largest producers of honey, and this question is one that must come to the front." My truthfulness and "modesty" prevent my saying that I am one of the "best and largest producers of honey," and that probably accounts for my not "sharing" in that "preference."

Cold and Backward Spring.—W. A. Hodge, Victory, Wis., on April 23, 1888, says:

I wintered 24 colonies of bees, mostly Italians, in the cellar, with a loss of only 2 colonies. They came out heavy, and seem to be all right. In 1887 I had 1,142 pounds of honey in 1½-pound sections, from 15 colonies. The spring is very cold and backward here, and the Mississippi river is very high—the highest, I believe, ever known in April.

CONVENTION NOTICES.

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. FULLER, *Sec.*

☞ The spring meeting of the Wisconsin Lake Shore Center Bee-Keepers' Association will be held on May 31, 1888, in Mueller's Hall, at Kiel, Wis.
FERD. ZASTROW, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold its spring meeting on May 8, 1888, at Cortland, N. Y., at 10 a.m. All bee-keepers are invited.
W. H. BEACH, *Sec.*

☞ The Keystone Bee-Keepers' Association will hold its sixth annual meeting in the Court House at Scranton, Pa., on Tuesday, May 8, 1888, at 10 a.m. All bee-keepers are invited. A. A. DAVIS, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The next meeting of the Susquehanna County Bee-Keepers' Association will be held at New Milford, Pa., on May 5, 1888. The following subjects are to be considered: Bee-keeping for pleasure and profit—Spring work with bees—Is it advisable to use foundation? If so, to what extent?—How can we make our Association of the most practical value to its members. All are cordially invited to come.
H. M. SEELEY, *Sec.*

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Honey and Beeswax Market.

DETROIT.

HONEY.—Best white in one-pound sections, 15c. Extracted, 9@10c. Large supply and few sales.
BEESWAX.—23@24c.
Apr. 24. M. H. HUNT, Bell Branch, Mich.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull.
BEESWAX.—24c.
McCAUL & HILDRETH BROS.,
Apr. 7. 28 & 30 W. Broadway, near Duane St.

CHICAGO.

HONEY.—Prices range from 16@18c. for best one-lb. sections, to 14@15c. for off color and condition; 2-lbs., 14@15c. Dark is slow of sale at almost any price. Extracted, 7@9c., with good supply. Light demand.
BEESWAX.—22@23c. R. A. BURNETT,
Mar. 22. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.
Mar. 19. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI

HONEY.—We quote extracted at 4@9c. per lb., for which demand is good. Comb honey, 14@17c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Apr. 23. C. F. MUTH & SON, Freeman & Ceotral Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.
Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs., 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c..
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Mar. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 6@7c. Market quiet.
BEESWAX.—18@21c.
Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.,; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Advertisements.

BEES FOR SALE,

DANIEL WHITMER,
17D2t P. O. Box 485, SOUTH BEND, IND.
Mention the American Bee Journal.

35 COLONIES of BEES

In good condition. For particulars, address,
P. O. BOX 40,
17A2t BELLEVUE, NEBR.
Mention the American Bee Journal.

APIARY

OF 130 COLONIES — mostly Italian — BEES to let on shares, or will sell.
Address, G. C. SODEN,
18A1t CANANDAIGUA, Ont. Co., N. Y.
Mention the American Bee Journal.

200 POUNDS of BEES

AT $1.00 per Lb. Italian Queens, $1.00 each. Circular free. S. C. PERRY,
18A9t PORTLAND, Ionia Co., MICH.
Mention the American Bee Journal.

ITALIAN BEES.

I WILL sell 3-frame Nuclei, with full-sized frames and Tested Queens, at $3.00 each. Full Colonies at $5.00 each. Address,
Rev. J. E. Kearns, Rockville, Ind.
Mention the American Bee Journal.

ITALIANS on Langstroth frames—2-frame Nucleus (no Queen), $1.25; 3-frame, $1.75. Bees per lb. 65c. Tested Queen, $2; Untested, $1.00. Also Dew-Berry Plants which I will sell for 50c. per doz. Every plant warranted to live, or I will replace them.
15A4t H. L. Pangborn, Maquoketa, Iowa.
Mention the American Bee Journal.

BEE-KEEPERS' Supplies, Queens, Nuclei, High-Grade Poultry, Small Fruit Plants, etc. Send for Catalogue. A. WORTMAN,
14C3t SEAFIELD, White Co., INDIANA.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian Queens, Bees by the lb., and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

SURE to send for our Circular before buying. Italian Bees by the lb., 2 or 3 fr. Nuclei, Queens, Foundation, &c. Unt'd Queens in May, $1; in June, 75c.; 6 for $4.
Joo. Nehel & Son, High Hill, Mo.
14Atf
Mention the American Bee Journal.

Send 75 Cents

for my New Book—"A Year among the Bees;" 114 pages, cloth bound. Address,
DR. C. C. MILLER,
20Atf MARENGO, ILLS.

My 20th Annual Price-List of Italian, Cyprian and Holy-land Bees. Queens and Nuclei Colonies (a specialty): also Supplies—will be sent to all who send their names and addresses,
H. H. BROWN,
18C3t LIGHT STREET, Columbia Co., PA.
Mention the American Bee Journal.

Western BEE-KEEPERS' Supply Factory.

We manufacture Bee-Keepers' supplies of all kinds, *best quality at lowest prices.* Hives, Sections, Foundation, Extractors, Smokers, Crates, Veils, Feeders, Clover Seeds, Buckwheat, etc. Imported Italian Queens. Queens and Bees. Sample Copy of our Bee Journal, "The Western Bee-Keeper," and latest Catalogue mailed Free to Bee-Keepers. Address
JOSEPH NYSEWANDER,
DES MOINES, IOWA.
5C6t
Mention the American Bee Journal.

Muth's Honey Extractor,

Perfection Cold-Blast Smokers,
SQUARE GLASS HONEY-JARS, etc.
For Circulars, apply to
CHARLES F. MUTH & SON,
Cor. Freeman & Central Aves., CINCINNATI, O.
P. S.—Send 10c. for Practical Hints to Bee-Keepers.
Mention the American Bee Journal.

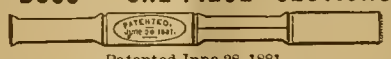
British Bee Journal

AND BEE-KEEPERS' ADVISER,

IS published every week, at 10s. 10d. per annum. It contains the very best practical information for the apiarist. It is edited by Thomas Wm. Cowan, F.G.S., F.R.M.S., etc., and published by John Huckle, King's Langley, Herts, England
Mention the American Bee Journal.

J. FORNCROOK & CO.,

MANUFACTURERS OF THE
"BOSS" ONE-PIECE SECTIONS,



Patanted Junn 28, 1881.

WILL furnish you, the coming season, ONE PIECE SECTIONS as cheap as the cheapest.
☞ Write for prices.
Watertown, Wis., Jan. 1, 1888.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail See advertisement in another column

J. C. SAYLES,

MANUFACTURER of and Dealer in Apiarian Supplies. Also Pure Bred
ITALIAN QUEENS AND BEES.
☞ Catalogue free. Send name and address.
13Atf Hartford, Wisconsin.
Mention the American Bee Journal.

MINNESOTA AHEAD!

WE are selling 100 All-Wood Langstroth Brood-Frames for $1.00; and Langstroth HIVES, with Supers, for 55 cts.
☞ Don't order your Supplies for 1888 until you see our Circular.
WM. H. BRIGHT,
10Atf MAZEPPA, MINNESOTA.
Mention the American Bee Journal.

Mention the American Bee Journal.

2-Story Langstroth Hive, 80c.

WE still have a few of those Two-Story Langstroth HIVES with 10 Brood-Frames, at 80 cents.
Who wants them? Speak QUICK, or it will be too late. Address,
SMITH & SMITH,
10Etf KENTON, Hardin Co., OHIO.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

The Bee-Keepers' Review

IF ever a bee-paper was started with a place ready and waiting for it, the REVIEW has had that luck. The first number was welcomed before it was read, and when it was read, it took its place easily and at once among the things that justify their own existence, and need no probation before being fully and finally accepted. It is an imitation of none of its cotemporaries, and it is on a level with the best of them, both in the merit of its general scheme, and in typographical neatness. This, we believe, will be the verdict of the intelligent bee-keeping public, and, as proof of the correctness of this belief, we append the following, which we select from a large number of similar congratulations:

I am greatly pleased with the REVIEW, and think it very creditable. It must take the lead with intelligent bee-keepers.—R.L.TAYLOR, Lapeer, Mich.

You have made an excellent start; and I am very favorably impressed with your plan of making each issue a "special number."—E. M. HAYHURST, Kansas City, Mo.

From a practical standpoint you are well qualified to make the venture a success. I hope you may do well financially, and establish and enviable reputation for editorial ability, as you have already as a writer on apicultural topics.—EUGENE SECOR, Forest City, Iowa.

REVIEW No. 1 lies before me, and I must say it is like a chestnut—brimful of meat, properly cooked, and served in first-class palatable order. Before reading it I thought, "What can friend Hutchinson say that has not already been said by others?" But you have given us a feast of fat things. If the REVIEW keeps up to the standard of No. 1, it has a bright future before it.—W.E.CLARK, Oriskany, N.Y.

I like the REVIEW in every respect. There is more in it than in any other bee-paper I have ever seen; that is, more real meat, or what is called meat, as *I* see it. The whole matter, including advertisements, is tastefully arranged. I cannot conceive who would not instantly subscribe, at the price, after seeing a copy.—JAMES HEDDON, Dowagiac, Mich.

I congratulate you upon the excellence of the REVIEW. It will be an honor to the craft, and to our State, if you maintain it at the starting pitch—and I do not doubt but you will. At first I was sorry. What we want is fewer, better papers. But I forgot for the moment who was at the helm. I believe you will succeed, and if you do not go to the top, you will stride well up.—A. J. COOK, Agricultural College, Mich.

A sample copy of the REVIEW is at hand, and I was agreeably surprised, to say the least. As a rule, periodicals in starting furnish at first a sickly, discouraging appearance that stamps *failure* all over them. What a contrast in beholding the REVIEW! Why, friend Hutchinson, the first glance at it shows its *success*. And then its contents—the very cream of advanced bee-literature. I read it through before laying it out of my hand.—E. KRETCHMER, Coburg, Iowa.

Four numbers of the REVIEW have been issued. The January number discusses "Disturbing Bees in Winter;" the February issue is devoted to "Temperature," as applied to bee-repositories; the March number takes up the subject of "Planting for Honey;" while "Spring Management" is the special topic of the April issue. The special subject of the May REVIEW will be "Hiving Bees."

Besides these special discussions, which are carried on by the best bee-keepers of the country, there are several pages in each issue devoted to short, sharp, coccise editorials upon current apicultural topics. An exhaustive review of Mr. Cheshire's book, "Bees and Bee-Keeping, Vol. II," is begun in the March REVIEW, and will be finished in the May number. If you wish for the cream of this great work, read these three numbers.

Price of the REVIEW is 50 cents a year. Samples cheerfully sent upon application.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, W. Z. HUTCHINSON,
18Atf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

1888. Italian Queens. 1888.

SELECT Tested Queens, in May, $2.50; in June, $2.00; after June, $1.50.
Queens Warranted Purely Mated, $1; 6 for $5.00. See page 174, March 14th Number of the "American Bee Journal."
Address, J. T. WILSON,
18A5t NICHOLASVILLE, Jessamine Co., KY.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. May 9, 1888. No. 19.

EDITORIAL BUZZINGS.

Give us of your sunshine,
O ! ye bonny spring,
Of your golden treasure,
Days of sunlight bring.

Come and deck with beauty
Hill and valley fair,
Every swaying tree-top,
Every meadow bare,
Robe all with beauty rare.
Acrostic. —LIZZIE GODFREY.

Christ Before Pilate, a painting by Munkacsy, the famous Hungarian artist, is on exhibition at Central Music Hall, Chicago, where it may be seen during the day and evening for several weeks. It measures 18x25 feet including the frame, and contains nearly forty life-sized figures. When gazing at the picture as it stands draped on the stage, in the large hushed hall, one almost waits to hear words issue from the canvas, so very realistic does the scene appear.

Honey on the Bill of Fare.—F. A. Huntley, in the Minnesota *Farmer*, says about the future of honey consumption :

Bee-keeping was one of the first rural occupations. At the time when man first commenced to stir the soil for his daily bread, bees were managed for domestic use, to furnish the only product then known and used exclusively as a sweet. The discovery of sugar making supplied a cheaper staple, which placed honey among the luxuries. For hundreds of years such has been the state of the honey trade. Now we see advanced bee-keeping increasing the production to an extent that will soon place honey on the regular bill of fare of the most unpretentious hotels. Indeed, we should see it there to-day.

The way to do it, is for bee-keepers and others to *call for it* when at hotels. "Mine host" will provide whatever is demanded. If honey is not required, it will not be provided.

Let Statistics Alone.—H. M. Moyer, of Berks County, Pa., writes as follows, for publication, on the subject indicated in the heading :

To get governmental statistics through the assessors may be good for some, but I am sure for the majority of bee-keepers it is not a good thing. If the assessors do such work they will surely tax the bees. We have to pay enough tax without the bees in such a poor locality as this. There are enough, without the bees, in the United States to pay taxes for. It is not pleasant, when we have not money enough to pay for other things. Why should bee-keepers pay a tax when the poultry-keepers do not ? In some places they pay taxes, but in general they do not. What is the taxable value of a colony of bees ? Somewhere I have read that it is $2.00. They generally sell them for $10.00 ; to value them to the assessors at $2.00 does not look honest ! In Pennsylvania we must make an affidavit as to the value of all our taxed articles, and to tax colonies of bees at $8, $10, or $12 would make too much tax. If you will work for the benefit of bee-keepers in general, let the governmental statistics and assessors alone.

Evidently Mr. Moyer does not understand the object of obtaining statistical information. He thinks, perhaps, that what is desired, is prompted by idle curiosity ; or, peradventure, for rivalry as between States or localities—to show which are the greatest honey-producing localities, or to indicate which are the most important in the industry of bee-keeping. But such is very far from the facts in the case.

It has been fully demonstrated that information concerning the supply of any commodity is of special value to its producers in fixing the prices at which such products may be put upon the markets of the world.

Not only is it desirable to know the number of persons engaged in the production of honey, and the number of colonies of bees they keep, but also the amount of the annual product of marketable honey (both comb and extracted), and also of beeswax.

Such information, furnished at the right time, would be of great value to those who are engaged in the industry of honey-production. The fear that assessors would tax the colonies of bees is not worthy of consideration. The blanks issued by many of the States for obtaining statistics are totally independent of the taxing blanks ; and whether bees are to be taxed or not is determined by the laws of the State, and not the *whim* of the assessor.

It is all very well to say, "Let statistics alone !" but when the bee-keepers in convention assembled appointed committees to attend to the matter, map out plans and put them into operation—they, in their united wisdom, evidently thought that the statistical information was worth obtaining, and, if obtained, it would be of much value to the industry at large.

From the efforts put forth this spring it has been ascertained that the loss during the past winter was only 15 per cent., and that the prospect for a good honey crop is very fair ! Is this not worth knowing ? Many think so, even if Mr. Moyer does not !

Diabetes and Sugar-Eating.—Mrs. H. Hills, of Sheboygan Falls, Wis., on April 26, 1888, writes us as follows on the above-named subject :

In the *Union Signal* published at Chicago, dated April 19, 1888, James Clement Ambrose remarks as follows :

In every ten cases of diabetes nine are the result of sugar-eating, and honey is a more unwholesome sweet, for with the sweet the bees gather more or less of the volatile oils at the base of the flowers, many of which oils are poisonous.

Is this not some "wily" fellow's talk ?

Yes ; of course it is. We have consulted with many physicians, and with one accord they deny the wily assertions of Mr. Ambrose. Diabetes is not caused by sugar-eating or honey-sucking. It is a disorder of the general system from the non-assimilation of food, leaving an excess of animal sugar in the blood and secretions. Although its cause and cure are not fully known, yet it can be controlled to some extent by a careful diet, clothing and warm baths.

The ingeniously-worded statement of Mr. Ambrose, about honey being poisonous is too absurd for anything. For fifty centuries it was about the only sweet used by man, and is still a prominent ingredient in all the best and most potent medicines ! Such a statement as that made by the *Union Signal* is of the most stupid and preposterous character !

The Best Advertising Medium.—The Bee-Keepers' *Review* for April states that while its advertisement has appeared in all the principal bee-papers, that of all those who have answered it, three-fourths say that they saw it in the AMERICAN BEE JOURNAL ! Straws show which way the wind blows. As a means of placing anything of value before bee-keepers, the AMERICAN BEE JOURNAL stands at the head. The BEST is *the cheapest.*

The above paragraph, which we published last week, Mr. Hutchinson desires to have amended thus : "Of all those who mention where there they saw his advertisement, three-fourths state that they saw it in the AMERICAN BEE JOURNAL."

Since we have been asking our readers, when answering advertisements, to say where they saw them, our advertisers are very well pleased, and the "old reliable" gets full credit for its excellence as an advertising medium.

Every Fruit Grower should have a few colonies of bees, in order to insure the more perfect growth of the crops. The bees, while gathering honey, carry the pollen from flower to flower, and thus fertilize the bloom, spread the growth, and multiply the fruit.

The Wrought-Tacks or clout nails used by Mr. Shuck for nailing honey-boards are ⅜ inch, not ⅞ as stated on page 295, at the bottom of the first column. It was a tpyographical error.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

GLEAMS OF NEWS.

Chapman Honey-Plant.—M. W. Shepherd, Rochester, O., on April 26, 1888, writes as follows concerning this honey-plant:

I wrote to Commissioner Coleman for seeds of the Chapman honey-plant, and received them. Please detail the best method of sowing the seed, and caring for the plants while growing.

The season thus far has been very unfavorable for bees. Owing to the continued cold weather the supply of pollen has been cut short, and the result is, the bees have not generally built up as they otherwise would have done. The outlook for white clover is bad, but linden may produce well. There has never been any honey gathered from fall bloom here—not more than for the keeping up of brood-rearing.

The following are the instructions given in the report of the committee appointed by the Detroit Convention to examine and report on this plant:

Its seed may be scattered in waste places, or it may be sown in drills or hills like onion seed. It seems to be characteristic of the plant to root out all other vegetation, and take possession of the soil. It may be sown broad-cast, and harrowed in like rye. By the latter method it makes a vigorous growth, and seems to take entire possession of the soil.

The height of the mature plant is from 3 to 4½ feet; each root bears from 5 to 15 round balls or heads, from 1 inch to 1⅞ inches in diameter. These heads stand upright, and the entire surface is covered with small, white flowers bearing bluish stamens. The stalks and leaves so nearly resemble those of the common thistle, that, were it not for the head, the difference would not be easily noticed.

The flowerets on the top of the head open first, then they open later along the sides of the ball, continuing in the order of nature around the entire surface of the sphere. Near the stem the last flowerets open, after the blossoms on the top of the heads have disappeared, and the seed-capsules of the first blossoms have hardened.

From the time of the appearance of the bloom upon the tops of individual heads, until the fading of the last blossoms upon the lower part of the head near to the stalk, is about eight days, the continuance of the blooming depending upon the nature of the soil and the season; but the heads or buds sent out from each individual shoot and forming each individual cluster, vary in degree and size, so that the natural term of blooming and honey-bearing may be safely reckoned at from 20 to 30 days.

The term of blooming may also be prolonged to a considerable extent by cutting back a portion of the plants, and the facility with which the honey harvest may be thus prolonged constitutes an important feature when estimating the value of this plant. The plant is hardy, easily propagated, perennial, and appears to flourish in all kinds of soil, and there is no danger of its becoming a pest or noxious weed. It does not bloom until the second season, and as it does not spread in seeding, its extirpation would be easily accomplished.

New Catalogues for 1888 are on our desk, from the following persons:

J. C. Sayles, Hartford, Wis.—10 pages—Apiarian Supplies.

J. N. Colwick, Norse, Texas—1 page—Italian Bees.

Bogus Comb Honey Again.—One of our subscribers being in Chicago recently, called at this office and left the card of a certain commission firm in this city, who bluffed him and almost made him believe that they could supply any amount of *manufactured* comb honey; that they knew where it was *made*, and that they could furnish it on short notice. He requested us to investigate it thoroughly.

Having the above information (?) we proceeded to look into the matter. We called upon the before-mentioned firm, and was shown some comb honey in cases holding 21 pounds each. The cases and also the sections were covered with propolis, and the combs were somewhat irregular—all indicating that it was genuine honey, and *not* the reported manufactured article.

In order to ascertain the truth regarding their claim to be able to furnish the manufactured comb honey, we asked if that really was the *bogus* article; and almost before we had finished our question, we were met with a strong assurance that the firm never had anything to do with manufactured honey. "Why," said they, "we would give $500 for a sample of manufactured comb honey. The Michigan Bee-Keepers' Association has offered $1,000 for a pound of it. You cannot find it in Chicago. It does not exist!" Thus was another false report exploded.

Ever and anon the famous—and *in*famous—Wiley lie appears in its various forms, but never without all its blighting effects; and just as frequently as it reappears, it is met and "downed"—but, alas, it will not stay down, so long as exist those who are so willing to do anything to cause a sensation. Enough has been written already to have a thousand times relegated that "scientific pleasantry" to the borne where many other fine-spun theories and hallucinations of attenuated imaginations have been forced.

But why will bee-keepers assist in keeping the "Wiley lie" upon its feet? Why do they not attempt to stop its ravages, instead of repeating what they know to be untrue? Hereafter let all compel every one who asserts that comb honey is manufactured, to produce the *proof*, and thus help to enlighten the public, and to close up the mouths of irresponsible reporters, whose perverted imaginations and greed for notoriety, is unequalled except by the falsity of the fabrications which they produce. By so doing the malicious slanderers would soon cease their abuse of this immaculate and inimitable sweetness—honey in the comb.

CONVENTION NOTICES.

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. FULLER, *Sec.*

☞ The spring meeting of the Wisconsin Lake Shore Center Bee-Keepers' Association will be held on May 31, 1888, in Mueller's Hall, at Kiel, Wis.
FERD. ZASTROW, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

INTERROGATORIES.

Cleaning Musty Combs.—A Subscriber at Creamery, Pa., asks the following questions:

Will the bees clean out old, musty brood-combs containing larvæ and dead bees? Or would it be better to melt them into wax?

Yes; the bees will clean them up better, quicker and cheaper than you can do it; and if the combs are straight and in good condition otherwise, it will be better to let the bees clean them, than to melt them up.

Bees Robbing.—P. M. Little, New Waterford, O., sends us the following to answer:

I have 10 colonies of Italian bees. A neighbor of mine, about one mile distant, has 13 colonies, and some of them are weak. Some three weeks ago, or less, he fed his bees outside; about a week ago he took the old hives from the stands and transferred the frames and bees into clean hives, (being careless about his work.) On Friday and Saturday of last week 3 of my strongest colonies attacked his weak ones, and destroyed 4 or 5 of them. He wanted me to shut my bees up, or he would kill them. In justice to both parties, what would be the proper method of procedure to allay the trouble; that is, to stop the robbing?

The careless work of your neighbor makes him responsible for the robbing; his bungling work *caused* it. As robbing is demoralizing, not only to his apiary, but also to yours, it was to your interest to do all you could to stop it, and should have contracted the entrances to your hives so that only one or two bees could pass at a time. The weak colonies of your neighbor should have been covered up with a large sheet; this would allow the robbers to leave, and keep others from getting in, and still not smother the bees; or they may be removed to a cellar for a few days, and when returned to their stands, the entrances should be contracted, so as to allow but a single bee to pass—thus enabling the bees to defend their hive.

"The Rulers, Flags, and Coats-of-Arms of all Nations," the title of the beautifully lithographed album published by W. Duke, Sons & Co., the cigarette manufacturers of Durham, N. C., is on our desk.

The album contains pictures of rulers and statesmen, which approximate the color and naturalness of fine and artistic oil paintings. The beauty and accuracy of all the portraits are interesting as an exhibit of the perfection attained in the art of lithography in colors. Aside from its completeness, the album has value as a book of reference. Its beauty and utility make it worthy of a place in any parlor. The firm sends it for 75 of their cigarette folders returned to them.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

QUERIES AND REPLIES.

Records of Queens, and Superseding Them.

Written for the American Bee Journal

Query 540.—Is it best to keep a record of the queens, so as to supersede them when they are two or three years old, or let the bees manage it in their own way?—Indiana

It is best to keep a record.—J. P. H. BROWN.

Let the bees do it.—DADANT & SON.

I let the bees take care of that matter.—G M. DOOLITTLE.

Perhaps so, but I never have superseded my old queens.—EUGENE SECOR.

Keep a record of everything, and supersede the queen when she ceases to be prolific.—A. B. MASON.

I have never kept a *perfect* record, but I am inclined to think that it is the best way.—MRS. L. HARRISON.

Keep a record anyway; but I do not know what is best as to the superseding.—C. C. MILLER.

It is much better to keep a record. Supersede the queens when they begin to fail—it makes no difference if they are 1 or 3 years old.—P. L. VIALLON.

I let the bees manage it in their own way, with all valuable queens.—G. L. TINKER.

Deeds, not days, determine a queen's usefulness. With experience you can tell when a queen becomes unprofitable by looking into her hive, and I should assist the bees as much as possible to supersede worthless queens.—R. L. TAYLOR.

I prefer to keep a record of all queens, including pedigree, so far as ascertainable. But I let the bees supersede a good queen. They know when to do it.—M. MAHIN.

I keep a record only of my fine breeding queens, and the older they are, the better for breeding purposes. I let my bees supersede their own queens.—G. W. DEMAREE.

No; let the bees manage it. I keep records of sale queens only. The bees do it better than we can, cost considered.—JAMES HEDDON.

Keep a record always. Thus you will know the pedigree, etc., and be able at any and all times to know the age of every queen in the apiary.—J. E. POND.

Yes, keep a record of queens, but supersede them only when they decline in vigor. Superseding by rule would often depose queens of great value. The bee-keeper must have brains as well as a record.—J. M. SHUCK.

I think that the bees can manage the matter for themselves. If queens are found that are doing very poorly, it pays to supersede them; but age is not the test. Our vision will serve better.—A. J. COOK.

As a rule, the bees will attend to these matters more satisfactorily than you could possibly do, and before you are aware that such was their intention. It is well enough to know which hives your best queens occupy, and if you have many colonies it will necessitate a record.—J. M. HAMBAUGH.

I find that the bees manage that thing very successfully, if you let them alone. You will find many cases where it is best to supersede, and you will not be obliged to keep a record to find it out. For a beginner in the business, a record of all work is an excellent help.—H. D. CUTTING.

I think that it would be a good idea to keep a record of the age of queens. I do not think, however, that it would be advisable to supersede queens less than four years old, unless they prove inferior; in that case do so at once. I supersede only such as fall below my standard.—C. H. DIBBERN.

It is certainly best to keep a record of queens, but as to superseding the queens, the bees will manage that more satisfactorily themselves.—THE EDITOR.

Metal Rabbets in Hives—Prolific Queens.

Written for the American Bee Journal

Query 541.—1. Do you use metal supports (called metal rabbets) in your hives? 2. If not, why not? 3. With everything favorable, can a prolific queen keep more than 12 Gallup frames (or their equivalents in comb surface) filled with brood?—Q.

1. Yes. 2. Yes.—P. L. VIALLON.

1. Yes. 3. No.—A. J. COOK.

1. I do not. 2. I do not need them. 3. I think that is sufficient space for brood.—MRS. L. HARRISON.

1. No, except on reversible frames. 2. They hurt my fingers in handling, and also get bent. 3. Yes.—A. B. MASON.

1. No. 2. They are of no use. 3. No.—M. MAHIN.

1. Yes. 3. For a short time in May and June, yes.—G. L. TINKER.

1. No. 2. Principally because tin rabbets make the frames too loose for hauling.—C. C. MILLER.

1. I have used metal supports for many years, and I like them on account of the bees not sticking them up with propolis. 3. I consider the number of frames mentioned as abundant for the purpose.—C. H. DIBBERN.

1. I do. 3. Twelve frames are about as many as an average queen can keep filled.—J. P. H. BROWN.

1. Yes. 3. I have seen queens that would do it; but when you say 12 frames filled with brood, you say a great deal.—H. D. CUTTING.

1. Yes, in some of my old ones, but not in any made within five years. 2. Because their disadvantages just about equal their advantages, and their cost is an entire loss. 3. No, but a very prolific one might for a time.—R. L. TAYLOR.

1. I use about one-half metal supports. Some object to them, but I look upon them as of value. 3. I have had queens keep 20, and in one case 30, Langstroth frames filled with brood during a whole season.—J. E. POND.

1. I do not. 2. My greatest objection is, that they allow the combs to slide around when moving the hive. 3. Yes. I have seen as high as 16 Quinby frames, well stocked with brood from one queen.—J. M. HAMBAUGH.

1. Not as a general thing. 2. Because they have as many disadvantages as they have advantages, and do not pay for their cost in my apiary. 3. Yes, and in same cases more. But it is not advisable to let them ever do things in that way. Eight Langstroth frames full of brood is enough for the best results. I want the other two of the ten frames full of sealed honey.—G. W. DEMAREE.

1. No. 2. Because I do not consider them enough better to pay for extra expense. 3. Mine do not average over 9 such frames full of brood when working for comb honey. However, in working for extracted honey, I have had them keep 20 or more frames filled for a month at a time.—G. M. DOOLITTLE.

1. Never, in the brood-chamber. Hanging frames bother enough in the movable-hive system of honey-producing without metal rabbets. I have tried them again and again. In extracting supers of the Langstroth system, I prefer them, but I am abandoning the Langstroth frame for extracting.—JAMES HEDDON.

1. No. My hives are not made that way. 3. Twelve Gallup frames full of brood from May 15 to Aug. 15 would be a good record for a queen in this locality. Some might do better, but with hives arranged for the average queen-bee, such would be uselessly prolific.—J. M. SHUCK.

1. I have quite a number of hives with metal rabbets. I like them better alone than in conjunction with metal-cornered frames; with both they are *too* movable for anything except ex-

tracting and queen-rearing. For comb honey it is not necessary to manipulate the frames every week. 3. Let us figure a little: One authority gives about 125 square inches on each side of a Gallup frame. At 25 cells to the square inch, would give 3,125 worker cells; 24x3125=75,000 cells in the hive. A queen would have to lay more than 3,500 a day to fill the hive in 21 days. Allowing one-third of the above frame-pace for honey and pollen she would still have to average more than 2,500 eggs a day to keep it full.—EUGENE SECOR.

1. Yes; we used them almost exclusively for several years. Their chief advantage is in not allowing the bees to stick them down with propolis. 3. No; not in ordinary cases.—THE EDITOR.

CORRESPONDENCE.

EATING HONEY.

Educating the People to the Use of Extracted Honey.

Written for the American Bee Journal
BY W. J. CULLINAN.

Four years ago last June I began the keeping of bees, and since that time myself and family have not known what it is to be without honey in the house, and on the table—eating it almost three times daily during that period. We always ate and preferred it separated from the comb, and whatever I produced in the comb was sold to those who preferred it in that shape. I always considered them, however, more nice and particular in selection than sound and experienced in judgment, as to that which was best; for if comb honey is good, extracted honey is certainly better, and it requires but a brief trial in the case of the unprejudiced, to demonstrate the fact.

Let those who have been "wedded to their idols" so strongly as to eat nothing but comb honey, and who have been swallowing large quantities of the unpalatable and indigestible stuff called "wax"—which, by the way, is only a receptacle for the pure nectar which is secreted in the flowers—discard it for a time and resort to the use of the pure, clear and clean article, known to the bee-fraternity as *extracted honey;* and after using it three months, if they do not admit that their digestive organs have improved, and they feel better, and it was the *honey* they were after, after all, I shall have missed my guess, and still be inclined to doubt their judgment as to that which is good. Let them try it and report.

It has been said before, and said so often that it scarcely needs repeating, that the leading objection to extracted honey, by those uneducated in the mysteries of the art of bee-keeping, is the fear and suspicion of adulteration.

"'Tis pity; pity 'tis;
And pity 'tis, 'tis true."

Now if the consumers of the country (ignorant through no fault of theirs) were educated to the fact that there is no such thing as adulteration at the present time; that glucose, sugar and other saccharine substances formerly used to adulterate honey, cost almost as much as the pure nectar itself, and that those unscrupulous enough to do the mixing, could not make it a success from a dollar-and-cent stand-point (which is about the only thing that would induce them to engage in it), they would soon begin to think differently, and this blight—or curse—which has hung like a black-winged messenger of despair over an inuocent fraternity for so long a period, would be at once dispelled, and in its stead a new era be inaugurated in which that much-maligned, but ever-to-be-praised article, *extracted honey*, would occupy its proper niche among the products of the hive.

The difference in the price of comb and extracted honey at the present time is too great, and it is due to no other cause than the suspicion of adulteration. Here in Kansas City comb honey is retailing for 25 cents per pound, while they retail just as good an article of extracted for 12½ cents. To come down to the real merit of the two—and it is by merit that we arrive at value—the extracted honey is worth the most, pound for pound; and when you buy a pound of extracted honey you get 16 ounces; but it is different when you buy a *section* of comb honey (it is sold by sections here). The retail dealer would always rather have a 24-pound crate that weighed only 22 pounds, than one of full weight, because in that case he makes 2 pounds of honey to the crate clear, besides his profit; so that when you buy a pound of comb honey you get about 1 ounce of wood, 1 ounce of comb, and full 1 ounce short weight, leaving you only 13 ounces of honey.

Now why should 13 ounces of honey, because it is encased in comb and wood, bring as much in the market as 32 ounces of the pure nectar, thrown from the comb? Surely there is something wrong. And I cannot help thinking that most, if not all of the trouble is due to the name—"extracted honey." The name is so closely allied with extracts, essences and various artificial compounds, that it is scarcely to be wondered at—though much to be deplored—that nearly nine-tenths of the people outside of the bee-keeping fraternity themselves, look with a suspicious eye upon the transparent nectar displayed, for sale in large quantities, and labeled "extracted honey."

After an experience of about five years in producing and selling honey, I cannot help entertaining the belief that the word "extracted," as used in connection with honey, has worked an injury to the honey-trade that it will take long years to repair, and created a doubt in the minds of the majority of consumers, that will require much time and patience on the part of the honey-vender to explain away.

I can well remember when a boy, that jars of clear "strained" honey were looked upon with an eye of pride, and their contents prized as a toothsome article in many a farm-house. More value was attached to it than to that much comb honey.

I have not written this article for the purpose of calling out any discussion upon the subject, but simply from a humanitarian stand-point. Should it set some genius to thinking, who might be able to hit upon a plan by which my favorite article of diet could be lifted from the mystery and doubt which at present surrounds it, I shall feel highly recompensed.

Kansas City, Mo.

SPRING TALK.

Some Seasonable Hints to the Beginners.

Written for the Prairie Former
BY MRS. L. HARRISON.

In some localities it may pay to feed meal or unbolted wheat flour or ground oats; but here, along the Illinois river, there is generally natural pollen to be gathered as soon as it is warm enough for bees to fly. The overflow from the river draws out the frost and causes earlier bloom.

Ash-leaved maple (*Negundo aceroides*), which is commonly known as box-elder, is a great favorite with bees, yielding both honey and pollen. One year a neighbor came in, saying, "Your bees are swarming in my trees." On going to them I saw at once why they were there; the trees were alive with bees, and the happy hum of industry prevailed, and not that peculiar note which is heard when bees swarm.

Ash-leaved maples are planted largely as a shade tree throughout the city, and some years are a source of much honey and pollen, which imparts new life to the bees, and stimulates brood-rearing. We drove through the streets yesterday to look at these trees,

and admired the pretty little tassels on every bough, as they blossom just as the leaves start. Like the country maid and her milk pail, we calculated how much profit we should reap by our bees gathering honey and pollen from them. But alas! like the milk-maid of old, our pail is upset, for last night (April 18) a heavy frost and freeze occurred, which blasted our hopes for honey from this source at least.

There will be no peach bloom, and very little cherry, for the trees have all been killed by drouth and cold, and we comfort our hearts that we may at least have bloom on crab-apples; and dandelions are hardy, if they are not all dug up for greens. The catkins on the silver-leaves and cotton-woods are growing, and yield pollen.

In the meantime, let bee-keepers, one and all, not sit idly on their hives whistling to keep their courage up, but go to work with a will, and clean up the apiary, and let it at least look prosperous, for honey comes like a thief in the night, at a time when we are not looking for it—so have all things ready. Do not disturb the bees and kick over hives. See to it that every hive stands true and firm, for if the hives lean to one side, crooked honey will be built, just as surely as water runs down hill. Look out for leaky roofs, closing cracks with paint.

I have never seen bad results follow painting hives with bees in them. You may find some dead colonies; if so, lift out the frames, and clean out the hive. A wide chisel is a good tool to use in scraping out a hive. If the hive is foul, scrub it out with hot suds and rinse with boiling water. Efface every trace of diarrhea, for who knows but it may breed disease. Scrape off the frames, brush off the bees with a whisk-broom, and cut off all queen-cells, for they are never used again, and are unsightly.

Do not spend time picking dead bees out of the comb with a pin or pinchers, for the bees have better tools to do it with than you, and can work more cheaply. The frames can be put back into the hive, which will be better for a fresh coat of paint, for a hive should last as long as a house, if kept well painted. A new swarm will be very glad of this hive well furnished, all ready for housekeeping, and not empty.

The old Scotchman said to his son: "Joek, plant a tree, it will be growing nights while you sleep." If you do not plant a tree in the apiary, plant a grapevine, and in three years you can eat the fruit of it. Then when you are tired in the fall, taking off honey, you can sit in the shade of the vine, and obtain from the refreshing fruit renewed courage for the fray.

Peoria, Ills.

EXPERIMENTS

In Making Hives Suited to the Art and Times.

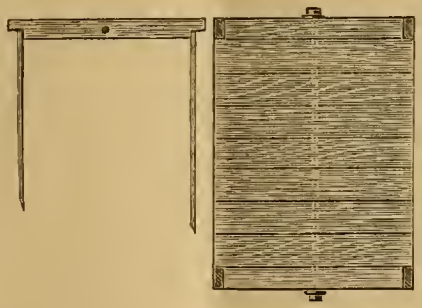
Written for the American Bee Journal

BY G. M. ALVES.

I have experimented with many different kinds of hives, without finding one which exactly suited me. Probably some churlish bee-keeper will add, "and you never will." Be that as it may, I have recently constructed a few hives, for next season's experiment, which, in my humble opinion, contain less objections and more advantages, than any other that I have used or read about.

A description of my hive is submitted, for the consideration of those unfortunates, who, like myself, are always craving something better.

The hive consists simply of as many frames as one chooses to use, placed side by side with boards placed on each side of the frames. The upright pieces of the frames are $\frac{7}{8}$ of an inch thiek and $1\frac{1}{2}$ inches wide, with holes as shown in the illustration. The top and bottom bars of the frames are $\frac{1}{4}$ by



$\frac{7}{8}$ inch. All of the corners of the frames are alike, and as shown in the figure. The side-boards are the same length and heighth as the frames, and have corresponding holes in the ends. The size of the holes of the side-boards and frames are $\frac{1}{2}$-inch, excepting the centre frames, which have $\frac{1}{4}$-inch holes.

I use $\frac{3}{8}$-inch bolts without nuts, but with washers; hence the bolts screw firmly into the centre frame, and at the same time have ample play in the other frames and side-boards to provide for slight inequalities. Of course the bolts are to be manipulated with a wreneh, and when so done you have the whole held together with a vice-like grip; in faet, you practically have a solid box which you could throw over the fence without injnry.

Let us now consider the advantages of this hive:

1. By means of different length of bolts, you can expand or contraet the hive to any desired extent. A 3-frame hive will take four 3-inch bolts; a 5-frame hive will take 4 $4\frac{1}{2}$-ineh bolts; a 7-frame hive will take four 6-ineh bolts; and a 9-frame hive will take four $7\frac{1}{2}$-inch bolts, and so on. If you desire to divide a hive into 2 nuclei, you have but to introduce a thin division-board in the centre.

2. There can be no sagging, warping or dislocation of the frames, as is frequently the case with hanging frames.

3. A very precise aceuracy in construction is not necessary.

4. The hive is easy of construction, and not expensive; $\frac{3}{8}$ by 6 inch bolts may be had at about 3 cents each.

5. It has all of the advantages of a box-hive (and *it* has advantages) and a movable-frame hive.

6. Last but not least, it is a reversible hive. This feature is tabooed by some, but when practiced at the proper time, it will nevertheless give excellent results. It affords all of the advantages of spreading the brood, without its serious risks.

Should the bee-keeper at the time when he finds the first clover blossom in some warm and protected fence-eorner, reverse the hives or frames of thrifty colonies, take my word for it, he will have more gatherers for the harvest.

Henderson, Ky.

KENTUCKY.

Successful Wintering—Bee-Culture in Kentucky.

Written for the American Bee Journal

BY JAMES M. TYLER.

Having given, on page 821 of the AMERICAN BEE JOURNAL for 1887, the manner of wintering bees in Kentucky in the Langstroth hives, I will report the results.

The 24 of the 25 colonies paeked, wintered in fine condition, and on March 26 each one had more or less brood, and were bringing in pollen from the elm and maple bloom with a vim. The one that perished was 1 of the 7 colonies made by division, about July 1, 1887. But for an oversight in allowing them all the frames, and failing to put them between division-boards, as I did with the other small colonies, I am sure that there would have been no loss.

These nuclei colonies did not build up much, owing to the severe drouth. They covered only from 2 to 3 frames. I would have doubled them up, but I desired to save my queens that I reared from my best stock. I gave them only about 10 or 12 pounds of honey to the colony, mostly uncapped and mixed largely with pollen, stored too late in

the fall to allow the bees time to cap it. Such stores doubtless would have proven disastrous to long confinement of the bees in cellars, or even on the summer stands. They had frequent flights at intervals of 8 or 10 days, and at such times they would spatter the tops of the hives with a yellow, watery excrement.

Bee-Hives and Frames in Kentucky.

In regard to my venerable and respected friend, Mr. G. W. Demaree, I would say that when I saw the heading of his article on page 184, I read it with great avidity, as just the information I wanted. He and my former countyman, Dr. Allen, now of Kansas, have been in the past the Gamaliels and Mentors of the smaller bee-keepers of Kentucky. From them and other specialists we have learned what little we know about bee-culture. But I was soon greatly surprised to find that with his pen (which he knows so well how to wield) he was after me, because I expressed my fears that I might be a little behind the times in adhering to the 10-frame, 2-story, cottage-roof, telescope-body, portico-front Langstroth bee-hive, which Mr. Muth calls his "favorite;" because I condemned the zinc, slotted, queen-excluding honey-board; because I thought the Heddon break-joint slotted honey-board was a good thing; because I did not give the orthodox method of wintering bees in Kentucky; and, it seems, because I recommended anything necessary other than an abundance of stores for wintering bees successfully here.

The fact is, Mr. Demaree's article reminded me very much of a colony of cross hybrids that had not been tamed. They will follow every person, animal or fowl about the premises, trying to sting, saying by their actions, "You have no business fooling around here, anyhow."

By way of apology, let me tell what inspired me to write. A few years ago I lived in Chicago for about a year, and while there, those go-ahead, pushing Northerners, with whom I became acquainted, talked to me after this fashion: "We like the Kentuckians pretty well, but do you know that you are about a hundred years behind, down there in Kentucky?" Ever since I returned I have believed this to be a fact, and I have an idea that we are far behind in bee-culture.

It occurred to me that the editor of the AMERICAN BEE JOURNAL was one of those who could enlighten me on the subject. I meant to inquire after the best form of the Langstroth hive for use in this locality. His answer was satisfactory, and I have laid in another supply of the Langstroth hives of the same pattern.

Mr. Demaree misconstrued my article, making me convey the idea that the Langstroth hive was but little used in Kentucky. The very universality of the use of the 10-frame Langstroth hive that I described, in small patches, compared to the bee-keepers, rarely exceeding a dozen at a place, and more often not more than two or three; constant reports in the spring, such as, "Half my bees are dead," "The Langstroth hive will not do to winter my bees in;" talk, by intelligent men, of going back to the box-hive, etc., impressed me with the belief that we were, as my Eastern friend said, "A little old-fogy and behind," in bee-culture as well as other matters. We Kentuckians are dreadfully "sot in our ways," and inclined to follow in the footsteps of our fathers. They are likely to continue in the same old rut, if they follow Mr. D's advice, that "An abundance of stores is all that is necessary in Kentucky," and read his severe criticisms against any who take the trouble to inform bee-keepers of methods of successful wintering, as followed by Mr. Demaree, Dr. Allen, and other successful bee-keepers.

The readers of my article referred to by Mr. Demaree, and his own article, will be curious to find any difference between that given by me, and by his method; except that he condemns the packing in of the brood-chamber by use of the division-boards and chaff, and does not mention that he uses "Hill's device" on the brood-frames to give a passage-way.

When I shall appear at our next annual bee-keepers' convention, which I expect to attend, I will have a bundle of bee-literature under my arm, and by his own record, condemn Mr. Demaree of contumacy, before a jury of his peers. I will show that while he condemns "all side-packing in the brood-chamber, as a positive injury to the bees," on page 167, in answer to Query 524, he said: "My practice is to place the combs on the south side of the brood-chamber, and close with a division-board on the north side;" and the evidence of the other answers to to this Query, and by the editor on the very same page, who says, "To put the combs in the centre, and a division-board on each side is preferable, because of controlling the temperature by the use of absordents on the sides when bees are wintered on the summer stands."

In the *American Apiculturist* for 1886, page 231, Mr. D. said: "For this climate the best preparation for bees in winter is protection on the north side and west ends of the hive." On page 740, of the AMERICAN BEE JOURNAL for 1887, in answer to Query 496, asking if winter passages were necessary, he said: "I prefer some strips of wood or pieces of corn-stalk *between* the quilts and tops of the frames, so that the bees can pass over the tops of the frames;" and the editor said that the combined evidence to the Query was, to use "Hills device or its eqnivalent."

His brother bee-keepers will surely laugh at him for condemning the method which I pursued in wintering bees here, which method is copied from the plan he and other experienced bee-keepers are following.

My condemnation of the queen-excluding zinc honey-board was doubtless hasty, and owing to the faulty use of it, as Mr. D. says; but I am not sure that it does not injure the bees as they rush through the sharp-edged slots, by tearing their wings and cutting the hairs from their bodies and legs more or less.

They will certainly laugh at my old friend for condemning the break-joint, slotted honey-board, now so universally recommended.

In the future I mean to talk in our county conventions more about the necessity of reading up our bee-literature, and urge the bee-keepers to take the bee-periodicals as the best way to improve bee-culture in this State.

Bowling Green, Ky.

WINTERING BEES.

Six Months' Sleep in the Cellar—Honey-Plants.

Written for the American Bee Journal
BY EUGENE SECOR.

Three weeks before the meeting of the North American Bee-Keepers' Society last fall—on Oct. 26—I put into winter quarters about half of my bees. The remainder were put in on Nov. 8. By winter quarters I mean the cellar under the house. On April 21, 1888, I began removing them to the summer stands, and finished on April 23.

The longest time of confinment was 180 days. During that time they never saw daylight nor lamplight. I visited the bee-room less than usual. I had a thermometer in a convenient position, which I examined every few days. It registered as low as 32°, and as high as 50°, but most of the time between 40° and 45°. There is no ventilation in the room, other than what is possible through a plastered or stone wall.

The bees wintered quite well, on the average. Some showed signs of diarrhea, and others not at all. I lost 6 colonies out of 40, and all but one of these by starvation. I have packed

some colonies in dry forest leaves. The others are in single-walled hives.

Silver maple bloom was about over when the bees were brought out. The spring has been very backward, and there have been only a few days when bees ought to leave the home nest. Bees have generally wintered well, so far as I have learned.

Alsike and the Chapman Honey-Plant.

I sowed two bushels of Alsike clover seed this spring. Quite a good deal was sown last spring. Our farmers are beginning to believe that Alsike clover will do well on wet land. If it proves to be a fact, more of it will be sown in the future. The Chapman honey-plant seed which I sowed a year ago, is looking well. All who see the patch think that it is thistle.

Forest City, Iowa, April 27, 1888.

TRANSFERRING.

How and When to Transfer Colonies of Bees.

Written for the American Bee Journal

BY H. E. HILL.

The method given by Mr. Geo. F. Robbins, on page 222, is quite ingenious—perhaps even the "neatest, safest, cheapest, easiest," etc., but I do not think that it is the "quickest;" and why it is cheaper or easier, I fail to see. The *simplest* effectual method is what the beginner wants, and improved ideas will follow experience.

If the beginner has more than one colony to transfer (if not, try Mr. Robbins' plan on that *one*), have some one to assist; have the empty hive, about fifty very thin strips of pine, ½-inch in width, and of sufficient length to be tacked across the frame in any direction desired; two boards a little larger than the frame to be used, a light hammer, hatchet, smoker, a pail of water, sponge, a couple of sharp knives, tacks, and a table or bench; and last but not least, a half-dozen good wing-feathers, to be used as bee-brushes.

If but 1 or 2 colonies are to be transferred, I would select the morning or evening, when other bees were quiet. Smoke rather freely in the hive-entrance at first, then tap lightly on the box with the fingers, smoking gently for a few seconds at the entrance (not inside) to prevent the bees from rushing out.

Now lift the box from the stand and place it bottom upwards on the ground beside the new hive, which is placed upon the old stand, with 2 or 3 frames of foundation or empty frames. The bottom is now pried off, while keeping the bees under control by an occasional gentle puff of smoke, as their actions demand. Then a side is removed, giving free scope for business.

It is but the work of a few minutes, to cut out each comb and brush the bees off into the new hive; while the assistant, with the combs and frame upon one of the boards previously prepared, "cuts and fits" the good worker-comb into the new frame, tacking the strips across the frame, so as to support the various shaped pieces. When the first side is finished, place the other board upon it; then lift both boards and frame, and lay them down with the other side upward. Remove the top board, and tack the strips across the other side.

To remove the frame with combs, do not attempt to lift it off the board, but raise one side of the board until the frame stands as it does in the hive, then lift up, drawing it off without displacing the comb. Leave these in the hive, and fill out with empty frames, or frames with full sheets of foundation or starters, as may be desired.

Cover down the hive, sponge off the table, boards, feathers and other tools, remove all particles of honey that might attract robbers, and if the colony is not very strong, contract the hive-entrance and slightly elevate the front, to prevent any dripping honey from running out, until they get "cleaned up." The whole operation takes about the same length of time that is required to drum the first lot of bees into a "drum-box."

One advantage that Mr. Robbins' method possesses over the plan described above (and the only one that I can see) is, the saving of brood, which is quite a consideration, especially when the operator is a novice; but this one weak point in my plan, may to a great extent be obviated, if the operator will remember that each cell of brood represents a worker, and exercise greater care in fitting the brood into the new frames.

During the past two years I have transferred more than 200 colonies of bees in the above way, from odd-sized frames, boxes, barrels, hollow logs, etc., with *invariable success;* and unless the combs are in a worse condition than any that I have met, from one to eight fairly good brood-combs can be saved in this way. If they are of the "cobble-stone pavement" kind, it is the fault of the workman, as any protuberant part may be easily pressed into position two or three days after transferring, and at the same time the sticks may be removed as carefully as possible.

If no eggs are to be found on the fourth or fifth day after transferring, and the bee-keeper has no laying queen to give them, destroy all queen-cells but one, reserving the better looking one; though my loss of queens in transferring would not exceed 2 per cent.

I have transferred with equal success during every month in the year, but I prefer, and would recommend, doing it at the time of fruit-bloom in this locality.

Mr. Robbins says, with reference to drumming the bees into a box, "In 15 minutes most of the bees, including the queen, will have passed into the drum-box." Admitting that in the majority of cases the queen would be "included," it is by no means invariable, especially if it is a young queen, or one of those nervous (?) dispositioned ones that is "all over, and nowhere," at such a time.

I think that Mr. Robbins should have gone a little further with his explanation, as the results of a beginner, being guided by the positive assertion might prove disastrous. He might follow the rules to the letter, and conclude that the new colony was all right—queen included—but if, upon investigation a couple of weeks later, he found "large white worms in the combs, the bees presenting a black, polished appearance, trembling, very irritable and venomous, and do not act at all like the other bees," the bee-papers would be called upon to publish a report of "a terrible, nameless bee-disease."

Titusville, Pa.

HIBERNATION.

Reply to Mr. Clarke's Critique, on Hibernation of Bees.

Written for the American Bee Journal

BY J. F. LATHAM.

Mr. Clarke supposes, on page 221, that I shall feel slighted if he does not "pay his respects" to my article on page 167. No, not in the least. When I wrote the article in question, the idea of reaching into the burrow of wood-chuck, that I might get bitten, in order to discover the whereabouts of the inmate, was totally absent from my thoughts; as well as the expectation of being made sensible of the existence of my mercurial hypercritic. But, as the resulting consequence of my inadvertency, in not defining my position, with strict regard to personality, I must admit that I do experience a satisfactory surprise at the explosion resulting from unconsciously pricking a bubble.

"It well-nigh bamboozles me," wrote Mr. Clarke. Well, as my assumed monitor did not get *really* bamboozled, I presume the shock will not be fatal;

at least I hope it may not, for I have no desire to perpetrate a capital offense.

As to "soaring out of the jurisdiction of the court," with due deference, I think that, with proper discrimination, Mr. Clarke will discover an unfortified point in his position, when he attempts to exercise judgment in a sphere where title might be made a matter of dispute. "Rhadamanthus was not always *just*."

Androgynal—'tis a pretty big word, come to look at it, and requires ten letters to spell it! but, on review, if there is any indiscretion in its use, as applied in my article, I have, as yet, been unable to discover it; and as it is a factor in the English language, I presume its use is free to all; furthermore, if its scope of meaning was fully illustrated, and the deductions that might be drawn therefrom rightly applied, they might supply nourishing food for thought in regard to the phenomena of hibernation, besides, jostling some of the favorite theories of its advocates.

"We all know that hibernate, in its common unscientific use, means merely to pass the winter." Mr. Clarke says, "We human beings and insects hibernate. So do plants and stones." But our scientists tell us that there is another definition applied to hibernation, which describes the specific physiological condition of the hibernating subjects; and that all in nature, animate or inanimate, are not subject to that condition in cold climates; although the *act* may be termed spontaneous. If Mr. Clarke includes stones in the list of *his* hibernating subjects, I presume he has an undoubted right so to do; but I am not prepared to accept their condition other than that of a suspension of the elements of their composition, which has existed since the subsidence of the Plutonic epoch in the evolution of this planet.

Mr. Clarke avers that we can arrive at a positive knowledge of the actual hibernal condition, and says, "We can see that." See what? "Bees form a tight cluster and remain in an almost, if not quite, motionless state." So they do at any time when in repose, whether as a swarm hanging from a limb, secreting wax in the hive, loafing from lack of forage or other causes, or among the combs of the brood-chamber in mid-winter. The effect is prominent; but it is the cause that demands solution.

During the past winter one of my colonies remained, what might be termed, perfectly quiet for 158 days, and when it flew on April 6, it was, so far as I could ascertain, in a most satisfactory condition. Thirty other colonies were in very nearly the same condition. But I do not consider the acts of the above 31 colonies more favorable to a confirmation of the hibernation theory, as set forth by Mr. Clarke, than those of the other 28 that had a flight on Feb. 22.

Mr. Clarke quotes me as saying that "the hive-bee is only physically constituted to experience to a certain degree the condition of *hibernation*." (Italics are mine.) The evasion exhibited by Mr. C. in the above quotation, seems to be a favorite method with him of substituting his own, for the language of those from whom he differs, in discussion. If I am correct in my recollections, the same spirit crops out in his pen-attacks on other correspondents of the AMERICAN BEE JOURNAL.

Had Mr. Clarke quoted correctly, he could have omitted the word hibernation in his comments. I used the word coma as a synonym of dormancy, to illustrate the quiescent condition experienced during cold weather, by such animals as scientists term the true hibernating species, viz: the bear, raccoon, etc. If the "hive-bee is only physically constituted to experience to a certain degree the coma (dormancy) to which the brute animals are subjected during the hibernal period," *it is correct* to say that the hive-bee does not hibernate in the accredited scientific definition of the term.

I am ignorant concerning the habits of Provincial red-squirrels; but the red-squirrels in this vicinity are out at all times, and in all weathers. They hibernate! certainly. The fiddle possesses a dual capacity, and when the theme is not reconcilable to the compass of one string, a "shift" can be made to the other. At the opening of his fifth paragraph, Mr. Clarke quotes me as saying that "no animated organized being 'can become frozen solid, or even become sufficiently benumbed by cold as to wholly destroy its vital functions and live;'" and says: "This is not so. The black ant can." Here again Mr. C. molds the phraseology to suit his purpose. I made use of the adjunctive phrase, "after having passed the limits of a definite grade of development, etc.," in accordance with its explanatory import.

Observation, and the teachings of those who have made the anatomy of insects a special life-study, prompt me to the belief, that the constituent fluids, the secretory glands, and, in short, the physical organisms of the hive-bee occupy a position in the line of progressive development far in advance of that of the black ant; requiring artificial means to protect existence, where, we are told, the black ant can freeze up in winter, and thaw out in the spring following.

I have never seen a carp; but if the carp possesses a pneumatic and circulating apparatus on a *par* with those of the hive-bee, it would require conversion to convince me that a carp can be frozen-to-death, and be susceptible of *re*-animation.

Again, Mr. C. writes: "Mr. L. says that, 'life without the influence of motion on matter is inadmissible.'" Admission requires proof. If the bear does not *breathe*, nor *change its position* while hibernating, I should say that the "flames of life" were extinct. The black ant is motionless when frozen solid, as I have observed while splitting partially decayed wood in the coldest weather in mid-winter. We often find the ants in a mass of ice in hollow trees, but I am not *sure* that they ever "come to life" again.

"Crysalids that freeze solid, thaw out and come to life again," says Mr. Clarke. So will the molecules of many of the vegetable species. The stone of the peach germinates more readily by being planted in the fall. The *seeds* of countless flowering plants freeze, and yet the *germ* of life is not destroyed. I am not informed that the black-ant can be frozen *solid, i. e.*, that its fluids are susceptible of congealation!

I think that Mr. Clarke will be compelled to go further than to where "our brethren of the Sunny South who keep bees" reside, to verify his remarks in his closing paragraph. "Bees must have a rest, surely, in the South, as well as in the North." But, when "in the South" means the Torrid Zone, with its "ever blooming flora," can that "rest" *be termed hibernation?*

In conclusion it is noticeable that, in his review of my article, Mr. Clarke skirmishes around allusions that savor of evolution. It seems to me that if the word evolve was substituted for create, in the English language, a huge stumbling block to right thinking would be removed. To talk of creating, is a continual butting against fact, when it is very apparent that everything possessing an organism, so to speak, is but the result of evolution—a manifestation of the attributes of one God, one Law, one Element.

Severe Winter and Backward Spring.

I can report 59 colonies of flying bees at present, all apparently in good condition; notwithstanding a severe winter, and a very cold, backward spring. My bee-yard is nearly covered with snow—in some places I foot deep. No pollen has been gathered yet; with unfavorable prospects of any for a week to come.

Cumberland, Me., April 16, 1888.

[One article on each side of this discussion is sufficient; it is now closed with the above article.—ED.]

SHIPPING BEES.

A Beginners' Experience in Receiving and Caring for Them.

A Letter written to the Shipper,
BY JOHN HILL.

The bees were very nearly starved when they came to Norton; there the express agent, by mistake, sent them to a man having a very similar name, and when he brought them back, there happened to be an apiarist in the office who asked whose bees they were. After examining them he said they were almost starved, and he would feed them. He bought some sugar, made syrup, took the bees into a room, let them out of the box, fed them, and then put them back again. If it had not been for this man, all the bees would have died before they reached me; and then they got no more to eat until they came here.

I made some syrup for them at once. and they seemed to be almost starved. It was interesting to see how quickly they licked up large drops of it.

When I had their hive made, the comb foundation had not come yet, so I put them into the hive with empty frames. When I took them out of the box, I found one comb entirely broken loose from the frame, and as dry as if there never had been any honey on it. The next frame to that one was broken and bent to one side, and a part of it was loose at the top, with a very little honey in it. The other frame was all right, and had the queen on it.

I put the comb with the queen in the middle of the hive, the comb that was partly broken next to it, and filled the rest of the hive with empty frames. This was early in the morning. There was very nearly two handfuls of dead bees in the bottom of the box, which appeared to be mostly young bees. There was a little bunch of bees that did not hold to the combs when I took them out, so I brushed them out of the box on the alighting-board of the hive, and they all went in.

The whole operation was performed without receiving one sting. I was very much gratified, for I expected to be stung before I was through. They crawled all over my hands, and never appeared to sting me. I then sat down on the grass, with my nose almost to the hive-entrance, to see what they would do. I soon noticed that some of them came out of the hive and flew away, and before 10 a.m. they were returning loaded with pollen. They worked hard, but paid no attention to me, though I was almost in their way.

Everything appeared to be going on like clock-work; but between 1 and 2 p.m. they surprised me, by commencing to come out of the hive until about one-third of them were out, and kept flying around my head as though they wanted to alight on it. They finally alighted on a bunch of grass about 12 feet from the hive. I do not know what was the matter. The other bees did not seem to pay any attention to them. They came out of the hive and flew right through the others, and came back loaded. After all had settled on the bunch of grass, I carried them back to the hive, but some would return to the grass. I carried the most of them to the hive with my hands, and at sundown I had all but about a table-spoonful of the bees to stay in hive, but those would go back to the grass every time. So I thought if they were determined to cluster there, they might. Early the next morning there was not a bee on the grass. I think that when night came they went to the hive.

The second day everything was all right; but the third day there seemed to be more trouble. There was from three to six bees at the entrance that seemed to be angry, strutting around with their backs up, taking notice of every bee that went in and out, and "cuffing" them. Some of the bees were so weak that they could hardly rise from the alighting-board, and those they would kill. I saw them kill five or six, and a good many more were dead on the grass. This continued for about three days, when it ceased; while it continued there would be a buzzing in the hive at times, but all the time they were busy at work. Not knowing anything about bees, I knew not what the trouble was. I became greatly interested in the whole business; but I concluded that these bees were so nearly starved that they were weak and unable to work, and the strong bees killed them. All the dead ones seemed to be young bees. After this trouble was ended, all went well with them, and the buzzing in the hive ceased.

After they were in the hive about ten days, the feeder, smoker and comb foundation arrived; then I made more frames and filled them with foundation. I opened the hive and found that the broken comb had fallen down. I took it out, and there was about half a tea-cupful of honey in it. They had commenced to build comb in one of the empty brood-frames. This frame I did not take out, but I removed all the empty ones, and filled the hive with frames of foundation.

Up to this time I think there was not more than one-third of the bees a live, caused by starvation and rough usage. I had received but one sting from them, and that was when I gave them comb foundation. They were crawling all over my hands, and one of them got under my wrist-band and stung me on the wrist. From the time the killing of bees was over, they worked with the greatest industry, but there was no more than about two handfuls of them left.

When they had been in the hive for about 20 days, I saw the first full-blooded Italian bees appear; they multiplied very rapidly, and about Oct. 1 the hive seemed to be full of young bees, not one of the old ones remaining. I believe that they will do very well in this country, and I do not think that bees could do much better in any country than these have done, considering what they had to endure.

Furnas Co., Nebr.

CALIFORNIA.

Keeping Bees in a Salubrious Climate.

Written for the American Bee Journal
BY A. D. STOCKING.

I left Cedar Beach, Ind., on Dec. 22, 1887, the weather being very cold there, and the bees all shut up in their winter quarters. I arrived in National City, San Diego Co., Calif., in the evening of Dec. 29, and what a contrast there was!

The following morning I found 2 colonies of bees, and they were flying all day, and seemed to be bringing in some honey. I do not think that there have been ten days since I came here, that bees have not been out, and now they are very busy getting both pollen and honey. Cultivated flowers have been in bloom out-of-doors all winter, such as geraniums, pansies, roses, candy-tuft, mignonette, etc., and now the country looks beautiful in its carpet of green—beautiful with its myriads of variegated wild flowers, with peaches and apricots in full bloom, and many other fruits are now (March 22) coming into bloom.

The weather, since I have been here, has been like beautiful spring and fall weather of the East. In January we had a few frosts; on three nights ice formed on water out-of-doors, and the ground froze lightly, yet vegetation was but slightly injured. The orange and lemon blossoms were not injured, nor the flowers blooming out-of-doors. The influence of the ocean breezes prevents injury from frosts.

National City is situated on the east side of San Diego Bay, and we can look across the bay to the west and see vessels passing, and the surf breaking on the low beach that separates the Bay from the ocean. We are surrounded by mountains on three sides,

distant from 6 to 12 miles, and we can see many snow-capped mountains, yet I have not seen a flake of snow, neither have we had either thunder or lightning, though there have been several heavy rains.

This is literally a land flowing with bees and honey. The bees occupy crevices in the rocks of the mountains, the church spires, and chimneys of houses in the town. I am told that hundreds of swarms were caught as they were going over the town last season. What bees I have seen were Italians, also a cross between Italians and a brown bee, and are very mildly disposed. All that is required in bee-keeping here is, to provide hives or boxes for the bees to occupy, and room for the storage of honey. No care or preparation is required for the wintering of bees. From what I can learn, bee-keeping is done in a very slip-shod manner, and generally a large and cumbersome hive is used—a movable-frame hive, but only a few steps removed from the box-hive.

The most of the honey taken here is extracted. What comb honey is taken, is in the Harbison section, secured together with strips, and used as the Hill sectional box is used. They are put on the market, or in bulk, and the combs cut out of the frames. The improved one and two pound sections are not used here, but they are being introduced into the northern part of this county, and in the counties north of this.

Improved methods and improved hives are being introduced. What is called the "Harbison hive" has been extensively used. It is a large, cumbersome hive, and very unhandy to manage. But a form of the Langstroth hive is now being used, which takes 9 Langstroth frames in the brood-chamber, and 8 frames in the supers. For extracting they are tiered up as high as required.

I am told that the greatest difficulty in bee-keeping is to prevent swarming. Mr. Harbison, the great California bee-keeper, lives in San Diego, four miles from here. Honey is retailing here at the following prices: Comb honey 18 to 20 cents per pound; extracted, 5 to 12 cents per pound, and the quality is fine.

The best honey season ever experienced here is anticipated the coming season. Bee-keeping is not profitable on the low or mesa lands of the coast, but on or near the hills and mountains it is made very profitable, and honey can be produced at one-fourth the expense that it costs in the East.

National City, Calif.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
May 19.—	Nashua, at Nashua, Iowa. H. L. Rouse, Sec. Ionia, Iowa.
May 22.—	N. W. Ills. & S. W. Wis., at Rockton, Ills. D. A. Fuller, Sec., Cherry Valley, Ills.
May 31.—	Wis. Lake Shore Center, at Kiel, Wis. Ferd. Zastrow, Sec., Millhome, Wis.
Aug. 3.—	Ionia County, at Ionia, Mich. H. Smith, Sec., Ionia, Mich.
Aug. 14.—	Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.
Aug. 27.—	Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

An Early Swarm.—Henry Patterson, Humboldt, Nebr., on April 30, 1888, writes:

The weather is nice, with frequent showers. Apple bloom is opening, and is giving the bees the first nectar of the season. What bees survived the winter are building up very fast. We have better prospects for a successful harvest than we have had for two years. I hived a natural Italian swarm on April 26. Who had an earlier swarm in this latitude?

Honey from Hard Maple.—Geo. H. Kirkpatrick, New Paris, Ohio, on April 30, 1888, writes:

My bees are doing finely. I never have seen bees breed as rapidly as mine are doing this spring. I think that the majority of bee-keepers will have no trouble to get their colonies in proper condition for the white clover honey-flow. The hard maple trees are now in bloom, and the bees are gathering honey from them. Some of my most populous colonies are gathering surplus. I find it necessary to remove some of the filled combs and replace them with empty ones, to give room for the queen to lay. The peaches, pears, plums and cherries are in bloom; soon the apple trees will be in blossom, and as the white clover is looking fine, surely the prospects are good for a bountiful crop of honey.

Heavy Losses in Wintering.—Wm. Anderson, Sherman, Mo., on April 30, 1888, writes:

The outlook for boney this year is the poorest that I have ever known. White clover was killed by the drouth and the winter, and red clover is all dead. It looks as though there will be nothing for the bees to gather honey from. We have had no rain for four weeks, and everything is drying up, but it looks as if it would rain today. About 70 per cent. of the bees in this part of the country have died from starvation, and that dreadful scourge—foul brood. My loss was very heavy, after trying many of the so-called foul brood cures. I had a fine swarm on April 26, which is something very uncommon here. Everybody was surprised, and I thought something was wrong, but upon examining the colony I found them all right, with a fine young queen; the old colony seems to be in splendid condition, and will be ready to cast another swarm in due time.

Cool and Late Spring, etc.—G. M. Whitford, Arlington, Nebr., on April 23, 1888, writes:

The spring is cool and late. Bees are gathering some pollen, but it is nearly a month later than they commenced storing pollen last spring. As a general thing, bees did not winter as well the past winter as the winter before. I lost 3 colonies out of 13. I enclose my dollar for the "Union." It is the duty of each and every person interested in bee-culture, to aid the Union in its noble undertaking. I have received a package of the Chapman honey-plant seed from the Department of Agriculture.

Cotton-Seed for Winter Packing.—G. W. Crowder, Kosciusko, Miss., on April 24, 1888, writes:

I have 25 colonies of bees in the Simplicity hives, which I work with single story and super with 28 boxes on top. Bees are doing finely here this season. The readers of the Bee Journal should try cotton-seed for winter packing. I think it is excellent for that purpose. Italian bees are far superior to the blacks here.

A Good Harvest Expected.—Mr. F. B. Reynolds, Rossburg, N. Y., on April 30, 1888, writes:

Bees are doing well. We are having some very hot weather here now—86° in the shade. The trees are all ready to burst their buds, and we will soon have a harvest for the bees. By the way they are carrying in the pollen, it seems as if they would fill the hives in a short time. I received two packages of the Chapman honey-plant seed in good time, from the Commissioner of Agriculture.

Wintered Well and Working Hard.—S. Burton, Eureka, Ills., on April 28, 1888, says:

My bees have wintered well on the summer stands. They were packed the same as last winter, which is described on page 684 of the American Bee Journal for 1887. I lost one colony by its being queenless. I have 14 colonies, and they are building up fast. They have been gathering natural pollen for a week, and are working hard now.

Loss in Wintering.—Jas. W. Mills, Melleray, Iowa, on April 22, 1888, writes:

I lost 23 colonies out of 29 in the cellar, where the two previous winters I had no loss. Some of them starved, and the rest had the diarrhea, or some other disease. I had 28 colonies in the spring of 1887, some of which were very good, and some very poor. I doubled up the old ones that were weak, and gained only one colony, with about 2 gallons of extracted honey that I ought to have left. I bought 3 colonies about April 1, and I would rather have those than all the rest. I am not the only one to lose bees in this place.

High Water—Bringing Pollen.—C. Theilmann, Theilmanton, Minn., on April 26, 1888, writes:

I put out my 217 colonies of bees on April 21, all having wintered in fine condition, except one that starved. I had put them into two caves on Nov. 17, 1887. Three weeks ago we had about 3 feet of snow. Yesterday and the day before the bees brought in much pollen. Soft maples are

in full bloom. It is warm to-day, and bees are booming for this time of the year. The melting of that heavy snow-fall has made the creeks and rivers very high. The Zumbro river has not been so high since 1859. It has swept away nearly all the bridges and fencing, and the fields are flooded. The railroad was badly damaged. I had no mail for nearly two weeks; but it is all right now.

Gathering Pollen.—H. M. Seeley, Harford, Pa., on April 27, 1888, writes thus:

I know of three who have received seed of the Chapman honey-plant from the Commissioner or Agriculture; I being one. We received it very promptly. My bees gathered the first natural pollen yesterday, and all are doing finely.

Immense Forest Bloom.—N. D. Coffin, Westland, Ind., on May 1, 1888, writes:

I sent to Norman J. Coleman for the Chapman honey-plant seed, and received a package promptly. The bees are doing well. The forest bloom is immense; but the prospect for white clover is not flattering, by any means.

No Loss in Wintering.—Horace S. Ball, Granby, Quebec, on April 28, 1888, says:

It is quite warm here to-day—80° in the shade. I put my 40 colonies of bees out on April 25 and 26. They were in good condition after being 160 days in the cellar. Those in Langstroth hives came out in the best condition, as they always do with me. The first pollen was brought in on April 27.

Hiving-Box—Honey-Plant Seed.—Randolph Graden, Taylor Centre, Mich., writes:

I used just such a hiving-box as is described on page 275. I find it the most convenient of any method that I know anything about.

I sent to the Commissioner of Agriculture immediately after I saw the item in the AMERICAN BEE JOURNAL, that the Chapman honey-plant seed could be had by applying to that Department for it. I received it with several other varieties of seed about three weeks ago.

Clovers Winter-Killed, etc.—Alex. Rose, Sullivan, Ills., on April 30, 1888, writes as follows:

I wrote to Norman J. Coleman, Commissioner of Agriculture, for the Chapman honey-plant seed, and in due time it arrived. I am an agricultural correspondent for this (Moultrie) county; I will also report bee-statistics for the county. I have three persons who will assist me in getting statistics. I find the employes of the Department at Washington very prompt in granting all reasonable requests that come under their care. Almost every county in the United States has regular correspondents who no doubt will look after the reports of bees and honey.

Bees have wintered poorly as a rule in this county. Some bee-keepers have lost ½, some ⅓, and some almost all; a few have lost none. Bees seem to be healthy, though weak. The white clover seems to be about all dead, and red clover is all dead. The apple, peach, cherry and plum trees are all in full bloom, but seem to yield but little honey. The hard maple or sugar trees are in full bloom, also red-bud, which seems to have some honey.

I am selling my old honey at 25 cents per pound. I averaged about 25 pounds per colony last season, all of it being of a reddish cast. There was scarcely any white clover honey last year, and but little linden honey. Our crop was mostly from wild bloom, and red clover cut short by drouth, which made the blooms short, so that the bees could reach the honey.

I have no use for separators in sections; I look upon them as a nuisance. I find but little trouble in making foundation stick in the sections. I use full sheets in one-pound sections.

Results of the Season of 1887.—C. H. Jones, Pierceton, Quebec, on April 25, 1888, writes:

In the spring of 1887 I commenced with 13 colonies, 7 of them in box-hives, and increased them to 34 colonies. I bought 19 colonies in the fall, making 53 in all. I secured 500 pounds of linden and clover honey, and transferred those in box-hives, getting 41 pounds of wax. I use the Simplicity hive, and winter my bees in the cellar. The temperature has been from 38° to 42° all winter. I have lost 6 colonies.

Bees Wintered Well.—Mr. John R. Sample, Elizaville, Ind., on April 25, 1888, says:

My bees have wintered well. I commenced in the spring of 1887 with 3 colonies, increased them to 8, and took 100 one-pound sections of honey. I packed 8 colonies last fall for winter, of which 7 are strong, and 1 is weak.

Lucerne and Sweet Clover Honey.—George Hone, Jr., Benjamin, Utah, on April 27, 1888, writes:

I have wintered 150 colonies on the summer stands without loss. I took 2,500 pounds of comb honey, and 14,000 pounds of extracted honey last season, which was gathered from lucerne and sweet clover. This honey was gathered by 138 colonies, spring count, with an increase of only 12 colonies. I find that giving bees plenty of room is the best method to prevent increase. Last season was a very good one for honey in this locality.

Fairly Strong Colonies, etc.—Ira Adamson, Winchester, Ind., on April 26, 1888, says:

I began the past winter with 21 colonies of bees, and I have now 13. Two colonies died with the diarrhea, 1 was killed by robber bees, and 5 became queenless. The rest are tolerably strong. I have been feeding some. If a bee-keeper has but 1 or 2 colonies of bees, it will pay him to take the AMERICAN BEE JOURNAL. I am sorry to hear of Mr. Z. A. Clark's persecutions. Suppose his bees were just outside of the corporation; if there was anything inside of that corporation to work on, how long would it take the bees to get to it? The bee is a privileged chaaracter, and if there are any sweets to be gathered, it will have them, or will work very hard to secure them. I have received a package of the Chapman honey-plant.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

The Convention. — The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Honey and Beeswax Market.

DETROIT.

HONEY.—Best white in one-pound sections, 15c. Extracted, 9@10c. Large supply and few sales.
BEESWAX.—23@24c.
Apr. 24. M. H. HUNT, Bell Branch, Mich.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull.
BEESWAX.—24c.
McCAUL & HILDRETH BROS.,
Apr. 7. 28 & 30 W. Broadway, near Duane St.

CHICAGO.

HONEY.—Prices range from 15@16c. for best one-lb. sections; other grades are slow, at lower prices. Extracted, 7@8c. Light demand, and supply larger than usual at this season of the year.
BEESWAX,—23c. R. A. BURNETT,
May 1. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.
Mar. 19. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI

HONEY.—We quote extracted at 4@9c. per lb., for which demand is good. Comb honey, 14@17c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Apr. 23. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.
Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts.; dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@8c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Mar 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 8@7c. Market quiet.
BEESWAX.—18@21c.
Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 18c.,; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Advertisements.

80 COLONIES of BEES

FOR SALE, CHEAP. For PRICES and further particulars, address
19Atf **G. A. Prochnow, Mayville, Wis.**
Mention the American Bee Journal.

ITALIANS on Langatroth frames—Two-frame Nucleus (no Queen) $1.25; 3-frame, $1.75. Each Nucleus to contain frames filled with brood and a plenty of bees. Orders filled promptly. TESTED QUEENS, $2.00; Untested, after May 20, $1. BEES per Pound, after May 20, 65 cents. Safe arrival and satisfaction guaranteed. No foul brood.
19A4t **H. L. Pangburn, Maquoketa, Iowa.**
Mention the American Bee Journal.

OUR ILLUSTRATED

CATALOGUE FOR 1888

WILL be mailed free to any one who is not already supplied with it. Send us your address, *plainly written*, on a Postal Card.
THOS. G. NEWMAN & SON,
923 & 925 W Madison-St., - CHICAGO, ILLS.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.**, and Supplies OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

SURE to send for our Circular before buying. Italian Bees by the lb., 2 or 3 fr. Nuclei, Queens, Foundation, &c. Unt'd Queens in May, $1; in June, 75c.; 6 for $4.
Jno. Nebel & Son, High Hill, Mo.
14Atf
Mention the American Bee Journal.

Send 75 Cents for my New Book—"A Year among the Bees:" 114 pages, cloth bound. Address,
DR. C. C. MILLER,
20Atf MARENGO, ILLS.

THOMAS G. NEWMAN & SON,

WHOLESALE & RETAIL

SUPPLIES for BEE-KEEPERS

ALSO DEALERS IN

HONEY and BEESWAX,

923 & 925 West Madison St., CHICAGO, ILL.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

The Bee-Keepers' Review

IF ever a bee-paper was started with a place ready and waiting for it, the REVIEW has had that luck. The first number was welcomed before it was read, and when it was read, it took its place easily and at once among the things that justify their own existence, and need no probation before being fully and finally accepted. It is an imitation of none of its cotemporaries, and it is on a level with the best of them, both in the merit of its general scheme, and in typographical neatness. This, we believe, will be the verdict of the intelligent bee-keeping public, and, as proof of the correctness of this belief, we append the following, which we select from a large number of similar congratulations:

I am greatly pleased with the REVIEW, and think it very creditable. It must take the lead with intelligent bee-keepers.—R. L. TAYLOR, Lapeer, Mich.

You have made an excellent start; and I am very favorably impressed with your plan of making each issue a "special number."—E. M. HAYHURST, Kansas City, Mo.

From a practical standpoint you are well qualified to make the venture a success. I hope you may do well financially, and establish and enviable reputation for editorial ability, as you have already as a writer on apicultural topics.—EUGENE SECOR, Forest City, Iowa.

REVIEW No. 1 lies before me, and I must say it is like a chestnut—brimful of meat, properly cooked, and served in first-class palatable order. Before reading it I thought, "What can friend Hutchinson say that has not already been said by others?" But you have given us a feast of fat things. If the REVIEW keeps up to the standard of No. 1, it has a bright future before it.—W. E. CLARK, Oriskany, N. Y.

I like the REVIEW in every respect. There is more in it than in any other bee-paper I have ever seen; that is, more real meat, or what is called meat, as *I* see it. The whole matter, including advertisements, is tastefully arranged. I cannot conceive who would not instantly subscribe, at the price, after seeing a copy.—JAMES HEDDON, Dowagiac, Mich.

I congratulate you upon the excellence of the REVIEW. It will be an honor to the craft, and to our State, if you maintain it at the starting pitch—and I do not doubt but you will. At first I was sorry. What we want is fewer, better papers. But I forgot for the moment who was at the helm. I believe you will succeed, and if you do not go to the top, you will stride well up.—A. J. COOK, Agricultural College, Mich.

A sample copy of the REVIEW is at hand, and I was agreeably surprised, to say the least. As a rule, periodicals in starting furnish at first a sickly, discouraging appearance that stamps *failure* all over them. What a contrast in beholding the REVIEW! Why, friend Hutchinson, the first glance at it shows its *success*. And then its contents—the very cream of advanced bee-literature. I read it through before laying it out of my hand.—E. KRETCHMER, Coburg, Iowa.

Four numbers of the REVIEW have been issued. The January number discusses "Disturbing Bees in Winter;" the February issue is devoted to "Temperature," as applied to bee-repositories; the March number takes up the subject of "Planting for Honey;" while "Spring Management" is the special topic of the April issue. The special subject of the May REVIEW will be "Hiving Bees."

Besides these special discussions, which are carried on by the best bee-keepers of the country, there are several pages in each issue devoted to short, sharp, concise editorials upon current apicultural topics. An exhaustive review of Mr. Cheshire's book, "Bees and Bee-Keeping, Vol. II," is begun in the March REVIEW, and will be finished in the May number. If you wish for the cream of this great work, read these three numbers.

Price of the REVIEW is 50 cents a year. Samples cheerfully sent upon application.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, **W. Z. HUTCHINSON,**
18Atf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

WANTED,

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., - CHICAGO, ILLS.

THE AMERICAN BEE JOURNAL CIRCULATES ALL OVER THE WORLD
PUBLISHED BY THOS. G. NEWMAN & SON, CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. May 16, 1888. No. 20.

EDITORIAL BUZZINGS.

The Night is mother of the day,
The Winter of the Spring,
And ever upon old Decay
The greenest mosses cling.
Behind the cloud the starlight lurks,
Through showers the sunbeams fall;
For God, who loveth all his works,
Has left his Hope with all.—*Whittier.*

Hives, Sections, comb foundation, and everything needed should be obtained at once, ready for use at a moment's notice.

Some very Sensible Advice is contained in the following paragraph which is taken from one of our agricultural exchanges:

Keep all colonies strong. Provide abundant bee-pasturage. Handle bees carefully and intelligently. Study up bee-keeping thoroughly. Every one should realize how little is really known. Bee-keeping and honey production does not impoverish farms or soil. Bee-Keeping can be successfully carried on by women. The best hive is the one you know how to handle best. The best bees are the ones that have best care and feed. Begin small and enlarge cautiously. One or two failures give more real knowledge than three or four successes.

E. T. Flanagan, Bellville, Ills., sent us his catalogue for 1888—12 pages—Bees, Supplies, Carp, Seeds, and Small Fruit.

Attention is called to the first two excellent paragraphs of Dr. Tinker's article on page 330. That is the only way discussions should be made. And yet, strange to say, since this JOURNAL was ready for the press, we have an abusive letter from a correspondent, for omitting his offensive personalities.

Nature's Way.—We have just received a small pamphlet published by E. H. Cook, Andover, Conn., entitled, "G. M. Doolittle's Method of Rearing Queens," which is called "The nearest approach to Nature's way yet devised." It contains 30 small pages, is neatly printed, but poorly bound, and is sold at 15 cents. On the importance of good queens, Mr. Doolittle says:

In no one thing in bee-keeping does good quality count for as much, as it does with the queen or mother-bee. Upon her centers the *whole* of bee-keeping. It would be impossible to secure a pound of honey without the queen. While a poor queen is better than none, yet it must be patent to all that the better the queen is, the more workers we get; and the more workers we have at the right time the more money we obtain.

When we come to fully realize the great value of a *really good queen*, one that you can get to lay from 3,000 to 4,000 eggs a day, six or more weeks before the honey-harvest, so as to have our force of laborers when the field is ripe for the harvest, we shall hear of less queens which "cost the apiarist nothing."

Good queens cost something, and are valuable in proportion to the pains taken in rearing them. Hoping that the time is not far distant when all will take more pains in this part of our fascinating pursuit, I thought it might not be a bad idea at this time to give a plain statement of some of the plans I use to procure queens for my own use; always aiming each year to excel anything done in the past. In doing this it shall be my aim to make all as plain as possible, so that even the novice can understand the how and why of it.

Concerning the advantages of the method described, Mr. Doolittle remarks thus:

This mode of preparing the colony so that they will be ready with plenty of prepared queen-food, is ahead of everything I have ever tried. It will be seen that an hour before they were feeding thousands of larvæ, and several queen-cells, when, all at once, they are obliged to hold the accumulating chyme, and take on an anxiety for anything to feed as a queen, that is almost as strong as their existence. They are now supplied with from 15 to 20 little larvæ, all cradled in queen-cells, upon which they bestow all the provision and caresses they were before doing for a whole hive; and let me assure you if good queens can be reared outside of natural swarming, such queens as will hatch out of these cells are the *good* ones.

It may be obtained at this office at the publisher's price.

Apicultural Experiments.—Prof. A. J. Cook, of the Michigan Agricultural College, remarks thus in the *American Apiculturist* concerning his intended experiments:

Under the new Hatch Bill I am going to undertake two new lines of investigation looking to the advancement of bee-keeping. First, I shall select and breed with great care to secure a better bee. I have been at this for some years, using Syrian and Carniolan stock. The other is to experiment to see whether it will pay to plant for bees. If so, what?

With Rain plentifully distributed over the country, warm sunshine interspersed between the showers, and profuse fruit bloom with other early blossoms, a good honey harvest may very naturally be expected.

Many Compliments have been received concerning the excellent typographical appearance of the AMERICAN BEE JOURNAL since the new volume commenced last January. Much of the credit is due to the exquisite face, finish and general excellence of the body type, which was made expressly for the BEE JOURNAL by Barnhart Brothers & Spindler, manufacturers of the celebrated "Superior copper-mixed type," at their type foundry at 115 and 117 Fifth Avenue, Chicago. We have dealt with this firm for 20 years, and cheerfully commend them to our "brother typos," for their business methods are the very essence of integrity and honor, and their make of type excellent and durable. Our "old dress" was made by them, and after using it regularly for seven years, one bee-publisher remarked incidentally that it still appeared so well that he did not see the necessity for our buying new type. This was a very flattering remark to our type founders and printers.

The Nebraska State Fair will be held at Lincoln from Sept. 7 to 14, 1888. There are $30,000 offered in premiums. Class L. is devoted to bees, honey, and apiary goods, and E. Whitcomb, of Friend, Nebr., is superintendent. Here is the list of premiums in this department:

	1st Pre.	2d Pre.
Best comb honey, not less than 20 pounds, crated and in single comb sections, weighing not more than 2 lbs. each...	$10	$5
Best gallon of extracted honey.....	5	3

The above to be limited to competitors producing their own honey in Nebraska during the year 1888.

Best colony of bees.....	$10	$5
" 20 lbs. of granulated honey.....	5	3
" and largest display by any one, including bees, extracted honey, apiary supplies.....	20	10

The test for colonies shall be the net gain in stores, and will be determined by the weight of honey that can be extracted from the combs of the hive. Each colony shall be weighed, inspected, and sealed at the commencement of the trial, and extracted as above stated at its close. The test of colonies shall end on Wednesday morning of the Fair, and begin on Wednesday morning two weeks previous. No caging of queens will be allowed, or any other practice by which a colony is put out of a normal condition. The bees of each colony shall be the sole progeny of the queen therein, and no colony shall be entitled to compete for a premium not showing, when handled, the ordinary amiability of pure Italians.

No colony shall be admitted coming from any locality in which there is reason to suspect the presence of foul brood.

The test for colonies shall end on Tuesday of the State Fair.

Best exhibit of brood and surplus comb foundation full, to partly drawn.....	$5	$2
Best exhibit of apiarian implements and supplies.....	10	5
Best display of honey in marketable shape.	5	2
Best candied honey.....	5	3

These premiums amount to $113 in all. Full particulars, blanks, etc., can be obtained of the superintendent.

Frank Leslie's Sunday Magazine for June is a number timely to the season, and two of its articles relate to Lake Champlain. Both are finely and fully illustrated, and they make one long to go thither. Lake George has so long monopolized attention that it is an agreeable change to find Lake Champlain receiving the recognition its beauties merit. Dr. Talmage contributes a capital article on "Woman her own Defense." The shorter articles are numerous as usual, and very interesting. The whole number is valuable.

GLEANS OF NEWS.

Extracted Honey in California seems to be a non-paying production. The excessive freights when exporting it to Australia and Europe take away all the profits, and the production of the past two years has been at a loss. The San Bernardino *Times* of a late date contains the following characteristic article on the subject, to which we invite attention :

The fact cannot be denied that the bee-keepers of California have for several years past been having a pretty hard time of it. We have seen prices go down gradually, year atter year, until now they are so low that there is absolutely no profit in the business, at least so far as the production of the extracted article is concerned. And the decline in price has seemed to have very little reference to the amount produced. Naturally, one would suppose that in seasons of short crops prices would become correspondingly stimulated. But such has not been the case. The price has gradually fallen until 2 or 3 cents a pound is about the limit of the price received by the producer, and one does not need to know that at such absurdly low prices there is no profit for the bee-keeper.

There seems to be some insuperable objection among the majority of people against the use of extracted honey. When that article was first put upon the market it was thought possible, and even probable, that its use might become general, and that so pure and healthful an article would quickly take the place of the impure and adulterated molasses, syrups and "drips" which are so largely consumed. Especially was it thought that this would be done when the price for the pure honey was put at a lower figure than those articles could be sold for. But for some reason it has proven all but hopeless to attempt to persuade people generally to become consumers of honey. As a consequence the price has, as already been stated, reached a very low point, both here and in the East, though it was much longer in getting down there than on the Pacific Coast.

Now, bee-keepers all over the country are seeking some method by which to make their business profitable. Many of the most experienced bee-keepers of the East have decided that there is nothing to be done except to put a stop to the production of extracted honey, and devote their entire time to the comb.

It is now claimed to have been a great mistake to have put the extracted honey at so low a price compared with the comb ; but the damage has been done, and it was based upon the idea that the bees could make about 3 pounds of extracted honey to 1 pound of comb honey, and that therefore the relative prices should be about in the same proportion. But this does not work very well in practice, for while extracted honey at 3 cents a pound, no matter in how great quantity it is produced, does not yield a profit, comb honey at 8 to 10 cents pays very well indeed.

As a consequence the advice to stop the production of the extracted article seems to be well founded. It is certainly far better to produce two tons of comb honey that will give a profit of 2 cents a pound, than to produce six tons of the extracted that has to be sold at a loss.

The fact is that the honey-producers of California pushed the sale of their liquid product so extensively that the great markets of the Eastern States were crowded with it, and that brought down the price, not only of California honey but also of that produced in the Middle and Eastern States. It also glutted the markets to such an extent that the demand for liquid honey was more than met, and sales were exceedingly slow. There was evidently an over-production on the Pacific Coast, with only an ordinary supply and demand in the older States.

Wisdom would seem to dictate that, instead of discouraging the production of extracted honey, bee-keepers should try to find avenues for its consumption. These have been greatly enlarged during the past decade, and may be doubled within the coming few years. Tons upon tons are used every year in the following manner :

It is used in the manufacture of confectionery, cakes and pastry, soda-water, mead and metheglin, jellies and jams, honey-wines and liquors, liquorice, honey egg-foam, and honey-vinegar, medicinal preparations, syrups, ointments and salves, popcorn balls and harvest drinks.

It is also used in canning and preserving fruit in its natural state, curing hams and meat of various kinds.

In making printers' rollers it forms a principal ingredient, also in the manufacture of beer, ale and tobacco, it holds a prominent place.

In making comb foundation it is used considerably.

In compounding medicines of all kinds, it has for ages held an important place ; while as an article of food it has been esteemed as one of the principal delicacies for many centuries.

It will be well for all honey-producers to see if they cannot find out *new* avenues for the use of honey. In this way we can prevent a decline in prices when the future honey crops will be large.

The extracting of honey was not a mistake—but it might have been a mistake to put the price at less than that in the comb.

To-day honey out of the comb is retailing in this city at 15 cents per pound, and the demand is very fair. The great error was made years ago by bee-keepers themselves, by lively competition, to break down the prices, and it is very difficult now to boom it, even when the crop is short.

The Inter-State law is just what has killed the honey-production on the Pacific Coast, by increasing the freight tariff so much that it takes all the honey is worth to bring it to the Eastern markets.

But what is disaster to them is a blessing to apiarists in the Middle and Eastern States. By keeping Californian honey out of the latter markets enhances both the price and demand of the Eastern product. This is another illustration of the old adage, that "It is an ill wind that blows no one any good."

Carniolan Queens.—S. W. Morrison, M. D., of Oxford, Pa., has sent us a description of them, their progeny, and good qualities, with full directions for introducing them to alien colonies. It will be sent free by him to all inquirers.

Experiments.—Mr. C. H. Dibbern, of Milan, Ills., gives these graphic descriptions in the *Plowman* of some of his experiments in "the days of yore :"

While I am writing of experiments, I will say that my ideas have not always proved so successful. Many years ago, when I used surplus boxes holding 20 lbs., without bottoms, I was greatly puzzled as to how I should take them off without getting stung. I did not then understand the best use to make of smoke, and a good smoker was unknown. Often I would pry off the box and then try to blow smoke on the bees from a roll of rags, but often just at the critical time the fire would go out, and the bees would make it so hot tor me that I was glad to let them alone, honey and all.

Finally an idea struck me, that if I would take two sheets of tin I could slip it under the box double, and then divide between the sheets, and remove the box of honey by holding on the tin bottom to keep the bees in and leave the other sheet on the hive to keep those in the hive down. This worked very well, till I tried to lift the box off, when the tin warped, letting out a hoard of infuriated bees, which immediately commenced a tour of conquest up my shirt sleeves, causing me to beat an inglorious retreat to the house. The bees in the main hive were soon "on their ear," as well as those in the box, and it was not till dark that any of us dared to venture out of the house. Even the chickens and dogs had to "climb" when they came too near the hive.

After dark I managed somehow to carry the hive to the cellar, allowing the bees to fly out through an open window afterwards. It was quite awhile, however, before I could go anywhere near that colony without them "going for me," and they "bummed" around the house for a week.

Another experiment I tried about the same time was a "new method" of hiving swarms that lit high up on a tall tree. I had such a tree that was the pest of my life. Every time a swarm would issue they would go right tor the top branches of that tree, and perhaps before I could secure them 3 or 4 swarms would cluster in the same branch. It took some time to climb the tree, saw off limbs and let down the hees, and it was usually hot and tiresome work. Finally the idea struck me that by getting a light pole some 20 feet long, and nailing on a hook and a muslin bag, I could secure the most of these swarms by giving the branch on which they might hang, a sharp rap with the end of the pole, and catching the bees in my sack, then gently let them down, and shake them into my hive.

How strange I had not thought of that before! Now I fondly imagined that all my trouble, on this point at least, was at an end. A trial of my great invention, however, soon shattered my hopes, when I found that the first rap on the limb with my swarm-catcher landed a half dozen bees inside of my shirt collar, and oh! how hot they felt.

The climax was reached, however, when the weight of the bees brought down the whole affair with a crash, and killing many bees. This made them furious, and the way they "went for me," compelled me to seek shelter in a neighboring shed. Even there they tried to get through knot holes to get at me. It was a long time before I got that colony settled in a hive.

It is needless to say that I have ever since regarded any pole arrangement with suspicion. At any rate a great coolness soon settled over that invention, and I have never since been seen going around the apiary with a long pole with a bag at the end.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

That Arkadelphia Case, etc.—Messrs. Harmon & Skinner, Zenos, Arizona, on April 25, 1888, write:

It was with feelings of joy that we read of that Mayor and aldermen being kicked out of office in Arkadelphia. It should not stop at that, but they should pay Mr. Z. A. Clark the damage and expense to which they have put him. We are ready to help the Bee-Keepers' Union if they need any means. There have been some threats made here lately, of passing a city ordinance to oust the bees from the city limits. We hope there will be no one so unwise and foolish, as to start any such thing here; but it seems as if there is a craze on the subject of bees. We hope that Mr. Clark will receive full satisfaction.

Our bees are doing well this season. We extracted honey two weeks ago, and took a little over 26 pounds per colony, from 70 colonies. We use the Heddon 8-frame Langstroth hive, and like that size of hive. We have 2 colonies of hybrid bees, from each of which we took 20 gallons of extracted honey in one season. The honey was extracted seven times in the season.

The Bee-Keepers' Union will have use for all the means within reach next July, for it has decided to leave no stone unturned to win the suit against Mr. Clark in Arkadelphia. The very best legal talent has been employed, and every inch of ground will be hotly contested. The ousting of the Mayor and councilmen, and the election of men of reason only guarantees for the future. The suit, having been appealed to the upper court, will have to be fought just the same.

A Sugar-Producing Tree.—O. O. Poppleton, of Apartado 278, Havana, Cuba, writes as follows:

On page 164 is a clipping from the *Grocers' Criterion*, about a "Sugar-producing tree in India." Judging from the part of the description about the yield of sugar in the West Indies, the entire thing can be safely judged as being on a par with Wiley's "scientific pleasantry"—in plain English, as a regular, old-fashioned lie.

I have taken some trouble to ascertain what the average yield of sugar is here in Cuba, and I am told by those in a position to be well posted, that new land will yield from 6,000 to 6,300 pounds per acre; and old land from 3,600 to 4,000 pounds, instead of only 400 pounds per 1¼ acres, as the *Criterion* has it.

Importers in Havana pay planters from 2 to 3 cents per pound for sugar delivered in the city: so the reported yield of but little over 300 pounds per acre, would not begin to pay for seed and rent of land, saying nothing about the immense expense for labor and machinery. I wish there was some way that Cuban sugar could be placed on the American retail market, without its passing through any process in getting there. It would largely replace other grades of sugar, on account of its great richness and absolute purity.

The selection was sent to us by Mr. Lewis Proxmire, of Mount Union, Pa., and he cut it out of the *Grocers' Criterion*. In reply to his question, we repled that we knew nothing more of the tree described than was contained in the article, and our thanks are tendered to Mr. O. O. Poppleton, who is now in Cuba, for stating his opinion of the article. It seems it is another of those disgusting lies which are perpetrated as "scientific pleasantries!"

Chapman Honey-Plant Seed, etc.—Leroy Highbarger, Leaf River, Ills., on April 27, 1888, writes:

In reply to Mr. A. Fiddes' request on page 275, I would say that I have received a package of the Chapman honey-plant seed, through our Congressman. When I wrote him to get it for me, he replied by return mail, that he would attend to it, and so it came right along. Whenever I want seeds from the Agricultural Department at Washington, by writing to him I get them. I shall not plant the seed, as it is not a hardy plant, and will not stand the winters in northern Illinois. I raised about 400 plants last year, and to-day I have between 40 and 50 left. What I did save were under a snow-drift until April 1. Every plant that was not protected is dead. If any others raised plants from it last season, I should like to hear from them, and how they have wintered.

Wintering bees last winter in this (Ogle) county was a failure. I have taken considerable pains in investigating, and I find a loss of at least 50 per cent., from that great scourge—diarrhea. The colonies to which I had fed sugar syrup fared fully as badly as those that had natural stores.

John B. Lindle, of Muscatine, Iowa, on April 28, 1888, answers the same question thus:

I have received some of the Chapman honey-plant seed, and it was planted a month ago; it is up, and has been cultivated once. There would be less complaints if orders were sent early, and not expecting it sent by return mail. I do not know what force of clerks are kept in the Commissioner's office, but it would require thousands to fill all orders on such short notice.

Among others who also report the receipt of this seed are C. W. M. Burroughs, Hillsborough, N. J., who got twice as much as he needed, and liberally divided with a neighboring apiarist. F. Wilcox, Mauston, Wis.; L. B. Gilmore, Blooming Valley, Pa.; G. H. Knickerbocker, Pine Plains, N. Y., etc.

Mr. Fiddes complained of not receiving his seed, and intimated that none may have been sent out. It is pleasing to know that "our public servants" at Washington have done their duty in this matter, and as Mr. Fiddes did not receive his, it is pretty evident that his letter was lost, or the seed miscarried. We are very glad that the question was asked, and answered so satisfactorily and numerously.

Removing Bees from the Cellar.—B. T. Davenport, Auroraville, Wis., on April 28, 1888, writes:

I took the first of my bees from the cellar on April 24, about two weeks later than they have remained in the cellar for 13 years. It was too cold prior to that time to take them out. The weather turned very warm on April 25, and I noticed the first pollen. The following day was fairly hot, the mercury reaching 82° in the shade, which brought willows out very rapidly; and on the two following days, bees gathered honey as fast from that source as I ever saw them gather it from clover. But to-day their work is stopped by a cold, northeastern rain-storm.

My 112 colonies were put into the cellar the last of November, 1887, making their confinement five months. They have wintered quite poorly, and I think I shall lose one-third or more, depending upon the weather from now on.

I have learned one of the best and most practical lessons since I have been engaged in bee-keeping. It reminds me of a passage of scripture, "Ever learning, and never able to come to a knowledge of the truth." I carried out a great many colonies during the middle of the day, on two days, while the mercury was 82° in the shade, and they mixed up very badly, all pouring upon two other hives until they were covered, and strong colonies were almost entirely depopulated; while those that I carried out after dark, and on the first two days while it was cool, came out slowly, marked their location, and returned to their respective hives. This was my first experience in putting out bees during such hot weather; and of late years I have neglected to number the hives, so that they are not placed on the old stand, and I never had any trouble of this kind before.

Numbering the hives is a very important item when cellar-wintering is practiced, so that they may be placed on the same stands occupied during the previous season. The old bees cannot be spared thus early without materially interfering with the season's operations; and there is danger of their being lost by entering the wrong hives.

INTERROGATORIES.

Wax Secretion—Moldy Combs.—J. B., of Ohio, asks the following questions:

1. Is the secretion of wax voluntary, or an involuntary act with bees?

2. I have a great many frames of empty combs, and some of it is pretty moldy. What would be the best way to use them? Would it be best to hive swarms on them, make nuclei and use them, or render them into beeswax, and have foundation made from it?

1. We do not know whether it is always voluntary or not; but we think that it is, as a rule.

2. If the combs are otherwise good, put them into or over strong colonies, which will soon clean them. Do not hive swarms on them, nor give them to nuclei.

Sprinkling Swarms in Trees.—Mrs. Jas. S. Stapler, of Tahlequah, Indian Territory, asks:

Is there any arrangement by which a lady could sprinkle bees that have settled in the top of a tree, in case where one has to wait for a man to hive them? Or, are there any other means of retaining the bees?

Yes, the Whitman fountain pump is the best thing that we have used. With it you can hold a swarm in cluster for an indefinite length of time, by sprinkling them often—every 10 or 15 minutes if the air is hot and dry. Be careful not to administer so much water at any one time as to break down the cluster. Experience will teach you.

New Catalogues for 1888 are on our desk, from the following persons:

Geo. H. Knickerbocker, Pine Plains, N. Y.—20 pages—Queens and Bees.

M. E. Mason, Andover, O.—8 pages—Bee-Keepers' Supplies.

QUERIES AND REPLIES.

Good Location for Successful Bee-Keeping.

Written for the American Bee Journal

Query 542.—Given, the latitude of Cincinnati creek and river bottoms, with clay hills as high as 200 feet, country well-farmed, white clover the principal source of honey, many lawns and much fruit-bloom, some melilot in the bottoms, and golden-rod and aster on the hills (no buckwheat and no basswood), and a good market. Would one who is qualified and loves the work, be apt to succeed as a specialist in the production of honey?—Southern Ohio.

Yes.—M. MAHIN.

Yes.—C. C. MILLER.

I think that he would.—MRS. L. HARRISON.

Yes, if he is *qualified*.—R. L. TAYLOR.

He would be apt to succeed.—J. P. H. BROWN.

Yes. We are in just such a country.—DADANT & SON.

I have no doubt that the locality would be a good one.—P. L. VIALLON.

Most assuredly, if all you state be true.—J. M. HAMBAUGH.

I can see no reason why he could not.—G. M. DOOLITTLE.

Others have done so, and there is no reason why you should not.—J. E. POND.

I think that such a locality will average with the honey-producing States.—EUGENE SECOR.

I think so. If basswood could be added, it would be very desirable.—A. J. COOK.

Yes, if there is plenty of clover, and it yields plenty of honey. As it was here (northwestern Ohio) last season, the bees would starve.—A. B. MASON.

There are points along the rich river bottoms near Cincinnati where a specialist should succeed well.—G. L. TINKER.

I should be a little afraid of your location, but if you have plenty of nectar for the bees, you will succeed if you have the necessary qualification, and love the work.—H. D. CUTTING.

This depends upon many things, and is a difficult question to answer. If the person has a love for the business, is industrious and economical, and has ordinary business ability, he would probably succeed.—C. H. DIBBERN.

I rather think so. But I would sow sweet clover and pleurisy-root as I had opportunity, and coax the farmers to sow Alsike clover. I sowed, three years ago, 40 acres of mammoth or peavine clover, and the bees frequent it as much as any plant I ever saw.—J. M. SHUCK.

I should call the location a fairly good one. It is a rare thing that any location combines all the desirable qualities in one. I would not fear to undertake it, if I was looking for a location, and other things suited me.—G. W. DEMAREE.

Yes; such a location and such a person as is described should make a success of bee-keeping.—THE EDITOR.

Marking the Hive of a Mating Queen.

Written for the American Bee Journal

Query 543.—The hives front east, are 4½ feet apart from centre to centre in the rows, and the rows are 8½ feet apart. If you find a queenless colony, and have no fertile queen to give it, but must give a caged cell or virgin queen, would you give the colony a new location, so as to give it more room in order that the queen returning from her mating-trip may be *sure* to enter her own hive?—Apiarist.

No.—M. MAHIN.

No.—A. J. COOK.

No.—A. B. MASON.

No, I should take the risk.—R. L. TAYLOR.

No; the distance is as far as needed.—P. L. VIALLON.

No. I would lay down a wide board in front of the hive, or in some other way make it look a little different from the others, when you should have no trouble.—G. M. DOOLITTLE.

I would not. There is very little risk of the queen mistaking her own hive.—MRS. L. HARRISON.

If you want to incur no risks, it would be better to remove the hives for the time being, to a new location not crowded.—J. P. H. BROWN.

No, but I would move the hives together in pairs, and thus double the chance of the young queen finding the right hive.—C. C. MILLER.

I should not change the location at all. The chance of losing the queen is so small that the trouble of so doing will not pay.—J. E. POND.

No. Lean a board or some other prominent object against the hive, about the time the queen will hatch, to make it easily distinguishable from the others.—EUGENE SECOR.

Place a twig of green leaves either side of the entrance, and the young queen will not miss her hive.—G. L. TINKER.

I would let the hive stand right where it is. Entering the wrong hive is not what causes losses in the mating of young queens. I have spent hours, days and weeks in observing these matters, and no young queen ever makes the mistake of entering the wrong hive unless two young queens chance to fly at the same time from the adjoining hives. Young queens return home guided by the signal "hung out" by her own bees. The loss is caused by the unaccountable disposition of the bees to "ball" their young queens.—G. W. DEMAREE.

By no means; but place some marks about the hive entirely different from any in the yard, that she may not fail to know on her return from her mating trip.—J. M. HAMBAUGH.

No. It is well to place a wide board on each side of the hive, projecting a foot in front, to enable such a queen in finding the right hive, they otherwise being similar.—C. H. DIBBERN.

No, she will be very apt to get home all right. The best plan to aid her is to place something over or against her hive, that plainly designates it from all others. Do not move it.—JAMES HEDDON.

No; but I would put an old carpet or an old coat over the hive for several days, and the queen will find the right hive, as far as location is concerned.—H. D. CUTTING.

It is not necessary to change the hive. Mark it in some way so that the returning queen will distinguish it from the others. Lean a board against the front of the hive, or lay a brick or an old shoe on the alighting-board; dozens of ways may be thought of, and all would be good.—J. M. SHUCK.

No. It is unnecessary to move the hive; but it might be well to place a bush or board slanting over the entrance, or something that would be a distinguishing object on the top of the hive.—THE EDITOR.

CONVENTION NOTICES.

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. FULLER, *Sec.*

☞ The spring meeting of the Wisconsin Lake Shore Center Bee-Keepers' Association will be held on May 31, 1888, in Mueller's Hall, at Kiel, Wis.
FERD. ZASTROW, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

☞ The Linwood Bee-Keepers' Association will meet at Eau Galle, Dunn Co., Wis., at 10 a.m., on Friday, May 18, 1888. A fine programme has been arranged, and an excellent time is promised. All are cordially invited. B. J. THOMPSON, *Sec.*

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

CORRESPONDENCE.

CHARMING MAY.

Written for the American Bee Journal
BY J. F. LATHAM.

All nature hails bright, bonny May!
A new-born verdure crowns the spray,
Bursting buds, and springing flowers;
Balmy zephyrs, gentle showers,
Following in the merry train
Of the feathered songsters' strain.

The *busy bee*, with joyous hum,
Revels amid the willows' bloom,
Culling with care the choicest food,
Home bears it to her growing brood;
While perched aloft, with sportive lay,
Rod red-breast chants the charms of May.

The blue-bird, too, on listless wing,
Lends, by its note, a charm to spring;
From thicket dense, th' allu'ing spell
Responds t' the music in the dell
With countless throats, in sweet refrain,
A prelude of the summer's reign.

With heedless dash, the foaming rills,
In restless leaps, rush down the hills,
Or, babbling through the meadow wide,
To broader channels yield their tide,
And seem to lend, as zephyrs play
In glist'ning sheen, a charm to May.

At morn and eve the blushing clouds,
No longer frown on winter's shrouds;
The vernal sun, with smiling grace,
Betokens *smiles* from Nature's face
In countless hues, on wood and plain,
Proclaiming—Spring has come again.

West Cumberland, Me.

BROOD-CHAMBERS.

How I Arrived at the Size of the Brood-Chamber I Use.

Written for the American Bee Journal
BY G. M. DOOLITTLE.

Seeing that some still prefer a large brood-chamer, and seem to think that those who prefer a smaller one are just a little "off the track," A few words about how I was led to adopt the smaller brood-chamber might not be amiss, especially to those just starting in the business of bee-keeping.

When I first began to keep bees, all the old bee-keepers about me kept them in hives of 2,000 to 2,200 cubic inches; and knowing that both Langstroth and Quinby also recommended that size to secure the best results, and as I knew nanght of the business, I supposed, of course, that they were correct; so I started out with the standard Langstroth hive with a capacity of 2,200 cubic inches in the brood-chamber, and surplus room on top for about 35 pounds of honey.

After using this hive for two seasons, I became convinced that the square form of frame was better adapted to this latitude than the shallow Langstroth frame, and so I adopted the Gallup form of the Langstroth frame, which is $10\frac{3}{4}$x$10\frac{3}{4}$ inches square, inside measure. As Gallup used 12 frames, giving about the same sized brood-chamber as Langstroth, I thought that I must, so I started out with 12 frames in each hive. I soon found, however, that as a rule three of the 12 frames would be filled with nice white honey early in the season, and generally remained in the hive the next spring.

After a little thought on the subject, I concluded to place three blanks or division-boards in the place of three frames, two on one end of the hive, and one on the other. To this end I nailed top-bars of frames on boards which were short, the depth of the hive, one-half of an inch at the bottom, and hung them on the rabbets in the place of the three frames.

I had previously found that my best queens would only occupy about 800 square inches of comb with brood, which left about 600 square inches of comb to be filled with honey and pollen, and my hive of 2,200 cubic inches gave me about 1,400 square inches of comb, surface measure. Thus each year I was losing the use of 25 pounds of the choicest honey, for the sake of insuring that the bees had abundance of honey for winter. This honey, placed in boxes, was worth $5 at least, at the time, while if necessary to feed on account of a smaller brood-chamber, $2 worth of sugar made into a syrup would provide them as much feed as the $5 worth of honey would supply.

I tried about 10 colonies with the three boards in the place of three frames of comb, thinking it best not to go contrary to the old veterans on a large scale at first, fearing that they might be right after all. However, I was more than gratified to find that I not only obtained the 25 pounds in boxes, but that these 10 colonies averaged about 50 pounds more honey than those that had their 12 frames of comb. The reason soon became obvious why this was so. As the queen kept the nine frames nearly filled with brood, when the honey harvest came the bees had nowhere to put the honey which they gathered, except in the boxes, so they immediately commenced work in them. With the 12 frames of comb they had room to store quite a quantity of honey in comb already built, and so they were loth to go into the boxes, as they had made their first start below.

Another thing pleased me much, which was this: I found as cold weather approached in the fall, that the bees placed their fall or dark honey in the brood-chamber, as the queen decreased laying preparatory for winter, and that as a rule the 10 colonies had enough honey for winter, namely, 25 pounds, and as this was not so salable as the white honey, I had made a great gain here also. The next year I placed boards in many more of my hives with like success, and the year after found me with all of my hives having only nine frames in them.

Having established the size of the brood-chamber (as nine Gallup frames) to my satisfaction, I found that unless I used the boards in the new hives that I made, I should not have room enough for boxes (60 pounds capacity being about right) on top of the hive. This set me to thinking of side boxes in connection with the top boxes, and I soon had the hive I have so many times described in the AMERICAN BEE JOURNAL.

These hives give me better results than any before obtained, and I was so well pleased with them that I adopted them altogether when working for comb honey. In 1877 the colonies in them gave me the average yield of over two hundred pounds of comb honey each.

For a few years I was satisfied, and each year gave me good results, but I soon saw that if I was to secure the greatest possible results obtainable, I must stop the rearing of too large a force of bees in the honey harvest, which not only took much of the honey while they were in the larval form, but became useless consumers when hatched, after the honey harvest was over.

To this end I commenced to contract those 9-frame hives to but 5 or 6 frames when hiving swarms, and also the parent colony as soon as the young queen began laying, where they were held until the honey harvest began drawing to a close, so that the queen which now began to cease her extra prolificness did not wish to occupy more room with brood; when the full complement of combs was again given in time to have their winter stores placed in them from the fall blooming flowers.

In the above way I have secured very gratifying results, and I would no more think of returning to a hive of from 2,000 to 2,200 cubic inches, than I would to the box-hives of our forefathers.

While I prefer the Gallup brood-frame to any other, I should not advise any one that had from 30 colonies upward, to change frames, for any of the frames now in use can be so worked as to secure good results, on the plan of small brood-chambers as above given.

Borodino, N. Y.

BEES IN WINTER.

Bees Flying in the Sunshine—Syrian Bees.

Written for the American Bee Journal
BY REV. M. MAHIN, D. D.

In the AMERICAN BEE JOURNAL of April 18, 1888, there are several things upon which I wish to offer a few thoughts and suggestions. The first is,

Bees Flying in the Sunshine.

I have been keeping bees for 19 years, and have always wintered them on the summer stands, beeause I have had no suitable cellar or repository in which to winter them. I have had them facing all points of the compass, sheltered and unsheltered, shaded and unshaded; and while I have kept no accurate statistics, the general results are pretty well fixed in my mind.

In some winters there has been but little difference in the condition of the bees in hives differently situated, and in others the difference has been marked. In winters in which the losses were great, those colonies have uniformly wintered best which where most fully exposed to the sunshine, and that fronted south. Sometimes a few bees will venture out when the temperature is too low for them to return; but generally they are diseased, and would die in the hives if they did not come out; and it is better for the colony that they perish on the snow than in the hive.

Careful observation has satisfied me that, as a rule, healthy bees will not leave the hives when the temperature is so low that they cannot return in safety; and I am satisfied that I have had colonies benefitted by flying when the temperature was considerably below 50°.

I wish also to speak concerning

Syrian Bees, their Temper, etc.

For six years or more I have kept Syrians and Italians in the same yard, in the same kind of hives, and with the same treatment; and part of the time in nearly equal numbers. I have had some Syrian colonies that were not good honey-gatherers, just as it has been with Italians; but every season I have found the rule to be, that the Syrians had the most honey. They have proved themselves superior both for comb and extracted honey.

Something needs to be said in regard to their temper. This is a question to which I have given careful attention, and my conclusions are that, as a rule—there are exceptions of course—they are more gentle, and easily handled, when honey is coming in plentifully, than are Italians, but more difficult to manage during a honey-dearth. They will not bear much smoke. A little is an advantage, but if they are heavily dosed with it, they become so angry as to be unmanageable, and to subdue an angry colony with smoke is impossible. They require gentle treatment when the hive is first opened, and then they may be handled as easily as any bees. I have taken all the combs out of a full colony, and put them back again, without using a particle of smoke, and without a bee getting angry.

I have never had the least trouble with them when they swarmed. No bees are more gentle in swarming time. On the whole, I like and prefer the Syrians.

Prospects for the Season.

As far as I know, bees that had honey enough have wintered very well, and are in good condition. They will be, unless we have a very heavy frost, an unusually abundant fruit-bloom, which will give the bees a good start. But in this vicinity the white clover will be a failure. I do not remember ever to have seen it so badly frozen out. At New Castle, where all of my bees are except 2 colonies, the white clover does not seem to be damaged much; and there, and perhaps in the central and southern part of the State generally, the prospect is good for a large honey crop.

Bluffton, Ind., April 19, 1888.

PACKING BEES.

The Winter Preparation of Bees.

Written for the American Bee Journal
BY JNO. A. BUCHANAN.

When I wrote on page 788 of the AMERICAN BEE JOURNAL for 1887, stating that bee-masters of this State do not, for the most part, think that it pays in this latitude to pack bees for winter, or make and use chaff hives, I knew that the statement would draw some comments. The first was from Mr. Rau, on page 11.

He thinks that we have made an "astonishing revelation," and suggests that a house well lathed and plastered would be warmer than it would be without such lining. We will agree on that point, but let us go further and suppose that we had a colony of bees with their combs built to the ceiling in one corner of the plastered room, and another colony so situated in a room with only the siding of the building between the bees and the elements, which would winter best? I firmly believe that the bees with their combs built against the siding, where the sun would so often warm, cheer, and invigorate them, would winter best. How often have we seen reports of colonies of bees being located in a building between the plastering and the siding, where for years they have lived and flourished!

Some years ago my bees had swarmed so much that I ran short of hives to put them in. One day three large swarms clustered together. After looking at their mighty proportions awhile, I concluded to experiment on them, so I got a board 2 feet square, nailed cleats 3 inches wide around it, put a stout staple in each corner, tied ropes to the affair, and hung it to a cross-beam in an old wagon-house, with one edge resting against the weather boarding in which were openings of half an inch, by shrinkage. Before putting this board up, strips of comb the full width of it were waxed to underside, as guides, running towards the openings in the siding. The big swarm was brought on, and made to cluster on the starters.

The bees went to work with a hearty good-will, and although late in the season, the center combs were built down as much as 3 feet, and contained a great abundance of honey for winter. Here we had a veritable curiosity, a powerful colony of bees without a hive, save the old wagon-house, which was about as cold in winter as out-doors.

"What will you do with them in the winter?" was asked by many. "Leave them there," was the reply.

"Will they live there?" I replied. "That is just what I wish to find out."

To my surprise this was as strong a colony at the time of apple bloom in May, as there was in any of my chaff hives.

Many times when there was zero weather during that winter, I would at night take a light out, and by holding it so that the rays would pass up between the combs, the bees could be seen clustered just as any one has seen them through the glass in a hive.

These bees, with the combs, were transferred during fruit-bloom the next spring. There was comb enough to fill 21 Langstroth frames.

Now I just relate this experiment to show that bees are not such tender, frail little creatures as some would have us believe they are. We all have seen bees wintering in boxes or hives so cracked and open as to expose the bees to view all the winter, and yet they would come out in the spring in the very best condition. But though all these things have been seen by hundreds of close observing bee-keepers, in almost every State in the Union, they may be, to Mr. Rau, "astonishing revelations."

When I say that I have kept nearly 100 colonies of bees for 30 years, and for the last 15 years one-half of that number; and that they have been wintered in good chaff hives without showing any better record as to swarms and honey than those kept in single-walled hives, it may seem to be a still greater "revelation" to Mr. Rau. Were I constructing a thousand hives for my own use, they would be made of ⅞-inch lumber, square joints, with sectional or half-depth upper-stories adapted to the tiering system, either for comb or extracted honey.

Mr. R. says that he wants the "brood-chamber contracted for winter, and 3 or 4 inches of packing on the outside of the hive." I have no patience at all with this idea of packing to be put outside the hive. If we find a colony in the fall that is not strong in bees, it is well to contract with division-boards, filling between these and the hive-walls with chaff or other good material; and over all place a quilt and cushion. This protection is easily put in place, easily removed when not needed, and the hives so arranged are not cumbersome and unsightly. When spring comes, the packing on the south side of the hives should be removed, the combs moved to that side, and the packing all put on the north side. This places the cluster where it receives the benefit of the warmth from the sun, with all its life-giving and exhilarating influence.

As brood-rearing closes in the fall, we find that the bees generate but little heat, which grows less preceptible during the fall and early winter, until the approach of the breeding season, when there is a gradual increase of warmth, which reaches its greatest intensity at the heighth of brood-rearing. Now, it is during the cool months of spring that contracted brood-chambers and packing may serve a good purpose, where there are not bees enough to form a heat-retaining crust around a good-sized brood-nest.

As cold weather comes on, bees are wont to form themselves into a cluster and enter a semi-quiescent state where, if undisturbed and in a normal condition, they rest and grow no older. In this condition respiration and the vital forces are measurably suspended. This is the bidding of nature's laws. But here comes our tender-hearted bee-keeper, and wraps his pets so warmly that they scarcely cluster at all, but rattle about and wear themselves out prematurely, instead of sleeping the sleep of peaceful rest. Bees in this State are wintered without any loss worth mentioning in single-walled hives, and why should we trouble ourselves with cumbersome double-walled hives.

I believe there is a possibility of a system being discovered in the near future, by which bees may be safely wintered with but little or no consumption of food, as in the manner of hibernating ants. Many things are possible in this age. In the meantime, hold to your packing, Mr. Rau.

Holliday's Cove, W. Va.

EASTERN BEES.

Characteristics of Cyprian and Carniolan Bees.

Written for the British Bee Journal

BY FRANK BENTON.

From Great Britain and from America letters similar to the following have so often been received by me that I deem the answers of sufficient general interest to warrant their publication on both sides of the Atlantic. They are given in accordance with my experience and honest convictions:

DEAR SIR:—1. Are the Carniolan bees as good honey gatherers as the Cyprians?

2. Will they at all times defend their hives?

3. Are the queens as prolific as the Cyprian and Syrian queens?

4. Do you consider them as well a defined strain or race as the Cyprians? The Cyprians, according to my experience, are a far better defined race than the Italians. When crossed, their markings are transmitted much further. I am inclined to give the Germans the next place. I have experimented with the German, Italian and Cyprian races.

5. How do the Corniolans winter in confinement? JOHN W. GROUP.

ANSWERS.—1. No; but they are good both as honey gatherers and comb builders, and they seal their honey in such a manner that the combs look whiter than those sealed by Cyprians, Syrians, Palestines or Italians.

2. No. If made queenless, they are thrown into greater excitement than are other bees under the same circumstances, and if deprived of their brood at the same time, are frequently so disconcerted as to neglect, for the time being, the defence of their hives. At other times, that is, under ordinary circumstances, they are most excellent defenders of their hives.

Carniolan queens are not, as a rule, as prolific as Cyprian and Syrian queens, but are far more prolific than black or Italain queens. The best Carniolan queens do not fall far short of Eastern queens as regards prolificness.

I do not. Mr. Group is quite right is saying that "the Cyprians are a far better defined race than the Italians, and when crossed their markings are transmitted much further?" And the same thing is true of Cyprians, as compared with Carniolans or any other known race. Cyprians are the "thorough-breds" among bees—the only ones whose pedigrees are pure, and their long line of ancestors bred in pent-up Cyprus, under conditions that must necessarily have produced a wonderful race of bees, reproduces its individuals to our admiring and covetous gaze—admiring because these bees transmit their markings and great beauty; and covetous, because they transmit also, even should their pure blood be adulterated by several generations of cross-breeding, their wonderful energy in collecting honey.

Among European races of bees, Carniolans, according to my experience, are, in all points of importance, decidedly superior, no matter whether we consider their qualities as honey collectors, or their ability, if their working force be so directed, to increase rapidly; their readiness to enter surplus receptacles and ability to build and seal over snow-white combs; their gentleness of disposition—their quietness under manipulation, and inclination to adhere to the combs, yet the comparative ease with which they can be brushed or shaken off: their ready defense of their hives under all ordinary circumstances, both against moths and robber bees; their quiet submission when confined for shipment; their readiness in constructing numerous queen-cells; the great prolificness of their queens; the indisposition the workers show towards gathering propolis to daub up sections and glue frames solid; the greater size and individual strength of the workers; their ready submission upon the application of smoke, if perchance they may have been aroused by rough manipulation; their disinclination to attack any one who merely enters the apiary; their hardihood, enabling them to withstand the severest climates, and their quietness and compactness in their winter clusters making them remarkably good winterers; if we test them in regard to any of these points, side by side with any other commonly cultivated European race of bees, all must yield the palm to the "silver race" of Carniola.

Mr. Samuel Simmins, in his excellent work, "A Modern Bee-Farm," tells the whole story in one sentence, when he says of Carniolans, "Scarcely a fault can be found with them."

5. Excellently. They have been developed in a cold, mountainous region, where snows are deep in winter, and rains often prolonged and even cold during the summer season. The past winter bees have been confined here without a good flight for four months continuously. Snow has been over two feet deep in the open coun-

try, while mountain ravines are drifted full. The thermometer several times indicated 13° Fahr., below zero. Very possibly this question is meant to refer to wintering in cellars or special repositories. In Carniola, bees are not wintered in cellars, so far as I know. The native bee-keepers pack their shallow box-hives (which are 6 to 8 inches deep, 12 to 18 inches wide, and about 3 feet long) side by side, and one above another, in old-fashioned bee-houses or sheds, and surround them with moss or fine hay, letting a mat or trap-door close the front during the intense cold, or when the ground is covered with light snow and the sun is bright. In this sort of repository, with abundant stores, colonies winter well.

Upper Carniola, Austria.

DISCUSSION.

Hard Arguments, but Pleasant Words the Most Effectual.

Written for the American Bee Journal

DR. G. L. TINKER.

The readers of the BEE JOURNAL will have seen that I have had little to say in reply to attacks upon me concerning my essay at the Ohio convention on hives. Now I desire to say that no angry communications to our bee-periodicals can be of any possible benefit to bee-keepers, and furthermore they should not be tolerated. For a long time there has been general good-will manifest among bee-keepers everywhere, and all differences of opinion have been tolerated in a fraternal spirit, and I desire to see this state of things continue. Until bee-keeping is reduced to a perfect art and science, differences will exist, and they should be tolerated in a proper spirit.

All will heartily concur with the editor in his remarks on page 260, that all "quarrelsome and jealous persons are *not* up to the *spirit* of the times." How very true this remark is, every well informed person of the present day must know. Angry contention never has, nor never will help any cause, but honorable and courteous discussions may do so. Selfishness and its offspring, jealousy, should give way to charity and fraternal good-will among all men, not alone bee-keepers, inasmuch as the latter qualities are indispensable virtues, and the foundation of moral and intellectual progress. In the new dispensation, the first commandment is to "love thy neighbor as thyself."

I am ready to fraternally discuss matters of importance with any one, but just at present I have no time to reply to such attacks as have been made on me in the *Review* and in the *Bee-Hive*.

Probably no man in this country has had a larger or more varied experience in the contraction of brood-chambers in the past five years than the writer, and I am a firm advocate of it in the production of comb honey, and especially for young swarms, but I think that it has been carried to extremes.

A fair swarm of bees should not be hived in a brood space less than the equivalent of six Langstroth frames, for the best results. Even with six Langstroth frames, the bees are prone to swarm out, and need to be guarded. But once established in such reduced quarters the colony will continue strong, and rarely deposit bee-bread in the sections. But six Langstroth brood-frames contain about 800 square inches of comb, and any brood-chamber having only a capacity for 700 square inches of comb, more or less, is certain to result in more or less bee-bread in the sections. In some seasons little pollen will be carried above one division of shallow hives, in others a good part of the crop is liable to be ruined by bee-bread. Five Gallup frames, although having less capacity, give less trouble than 8 shallow 5-inch frames. My greatest objection to the latter is in the size of the brood-cases; the next is the horizontal bee-space in the centre of the brood-nest in the spring, which beyond any question is an impediment to the proper extension of the brood.

As to the use of queen-excluding zinc in honey-boards, I desire to say that I was the first to so use it, and first to make it public. In its construction I have had large experience both in the manufacture of the zinc and in the various plans for its use; and have finally settled the matter to my full satisfaction that single-rowed strips of zinc used in alternation with the brood-frames is a hindrance to the working of bees in supers; and whether it is because of insufficient passage way or insufficient ventilation, I am unable to say, but both causes may be operative. At least my trials of two-rowed zinc have removed all objections to its use in honey-boards.

The two-rowed strips I use are $\frac{3}{4}$ inch wide, and there is a margin of 5-32 of an inch for entering the saw-kerfs in the edges of the slats. The slats used may be $\frac{7}{8}$ to 15-16 of an inch wide for a hive with frames spaced $1\frac{1}{8}$ from center to center, leaving a space between the slats of 7-16 to $\frac{1}{2}$ inch, so that we have no serious trouble from brace-combs, except where the space between the slats and top-bars of the brood-frames is over 5-16 of an inch.

New Philadelphia, O.

QUEEN-REARING.

Various Methods of Rearing Queens.

Written for the American Bee Journal

BY THEODORE JOHNSON.

On page 252, Mr. G. Crouse asks for descriptions of queen-rearing other than by natural swarming; and on page 300, Mr. D. P. Barrows gives his method, which I have practiced very successfully, but I have now abandoned it except in extreme necessity. I have several large hives for queen-rearing, made to receive the common Langstroth frame, each hive being 15 inches wide inside, with the partitions $\frac{1}{2}$-inch thick, which are let into grooves so as to be easily removed if desired. This gives four apartments, each holding two full frames, and an entrance on each side of the hive.

I select the queens from which I wish to breed (I keep nothing but pure Italians), and crowd two or three with brood from colonies I do not wish to breed from, so as to induce drone-rearing. At the proper time I divide one colony, leaving the most of the brood in the hive on the old stand, but remove the hive with the queen only a few feet. When the bees have completed a number of queen-cells, I remove the whole of the balance of the frames, putting one in each of the apartments in the queen hive. I destroy all of the small queen-cells, and leave one on each of the combs; the balance of the queen-cells I cut into other combs, from other hives, and put them into other queen hives. This being done, from other hives I remove combs partly filled with brood and honey, and well covered with young bees, and put one in each of the several apartments in the queen hives; and in this way I have the warmth of a full hive, and at the same time rear four queens from selected mothers.

As soon as the old colony is thus broken up, I place the nucleus containing the old queen back on the old stand, to receive the old bees on their return. By this means I generally have from 8 to 12 young queens on hand all of the time. This year I wintered four queens in one of those hives, and have had use for two of them to supply other colonies this spring.

My bees are in excellent condition. I put 77 colonies into a bee-cellar last December, just before Christmas; and the last week in March I took 77 colonies out. Four colonies were weak, and before I attended to my duty they were robbed. I am now extracting from 5 to 10 pounds of surplus honey from each hive, leaving a large supply for June use, which is our hardest

month here. All have considerable brood, and there is drone-brood capped in several hives whose queens are only one year old. I have stimulated by feeding each day a little uncapped honey in sections. I shall keep my bees back as long as possible, as I do not care to have them increase much.

Bower, Nebr., May 3, 1888.

SEASONABLE

Hints About Populous Colonies and Overstocking.

Written for the Western Plowman

BY C. H. DIBBERN.

The balmy days have come at last, and the bees and the bee-keepers are once more busy at their accustomed work, the former gathering honey and pollen from the bloom of the apple and peach, the plum and the myriads of wild blossoms that are found in the woods, over hills and valleys during this the loveliest month of the year. Everything is now springing into life—in spring such hope as one cannot always feel in the latter months of the year. The bee-keeper can now take heart and go to work with a will, at least that is what we must do if we hope to succeed.

The apiarist of the present day must be a general. The bees are his army. He must divide them into companies, regiments, divisions. If he has two or more apiaries he may regard them as separate armies. Like the true general he should know the exact condition of his army before starting out on the season's campaign. See that every company (colony) is full, if not, be sure that the recruiting officer (queen) is doing her duty, if not, supersede her at once. Remember that on the strength and discipline of each company (colony) depends our success in the apiary as well as in war. Never mind about lines of retreat, better burn the bridges behind you and keep ever marching to the front. If you find any lions in the way, there is always a way to make a "flank movement" on them. While the bees must be allowed to roam at their own sweet will among the flowers that suit them best, gathering their delicious treasures, the bee-keeper must ever know the condition of their hives, and keep their general welfare well in hand.

Another idea has suggested itself to me, and it is that many localities had become overstocked. During prosperous years we keep on increasing the number of our colonies, while perhaps our neighbors on all sides of us are doing the same thing, as if there was no limit to the honey resources. A bad season or two, like the last, shows us the folly of such a practice. It is far better to keep only a limited number of colonies, and they as strong as possible. Nature produces honey, like pure gold, only in limited quantities, and we must so manage with our bees that the profit does not all go for expenses.

Perhaps some of us have missed it just as badly by caring for hundreds of colonies, involving much work and expense, when we could have produced just as much honey with fifty. We must remember that only a limited amount of honey is produced in any locality, and if we increase the number of our colonies out of proportion to what could gather this at a profit, we are working at a loss. As the colonies are thus increased, the quantity stored per colony is in inverse proportion to numbers of colonies kept. It will thus be seen that the bee-keeper having more bees than can find profitable work, is like the farmer trying to farm all creation. Now I would not be understood that I do not want plenty of bees, I want them by the millions, but I want them in a limited number of hives.

Milan, Ills.

SEPARATORS.

The Use of Wood vs. Tin Separators.

Read at the Ohio Convention

BY DR. H. BESSE.

I suppose that all are aware that separators are used between the sections in order to obtain straight combs. I have not yet progressed far enough to find any benefit in the use of separators made either from wood or tin, although I have experimented quite extensively with both kinds; and if I should continue the use of either, I should prefer the wood, on account of cheapness. I think that separators should be discarded entirely, except, perhaps, in side-storing hives, and this I do not recommend.

I have made many experiments to get straight and true combs in sections, and have succeeded just as well without separators as with them, and thus I do away with considerable time and expense, as well as objectionable fixtures to the bees. I am of the opinion that bees will gather from 10 to 20 per cent. more honey without separators, than by their use. I am aware that in about every 30 or 40 sections, I find where separators are not used, a bulged or "fat" section that cannot be readily crated for shipment; but these I lay aside, and can find use for all such in the family, as well as retail them to friends and neighbors.

I should have said, that one of my objections to separators is, that the bees will persist in building brace-combs from the face of the beautiful comb to the separator; this has tried my patience a great many times. This trouble exists equally with wood and tin. Since foundation has become so cheap, and in such general use, I think it entirely unnecessary to use separators of any kind when the sections are placed over the brood-chamber; but, as I have stated above, they are indispensable in a side-storing hive, and this kind of hive, in my opinion, should soon pass out of existence.

I doubt if any one could tell the difference in my comb honey that has been built between separators, or without separators, after being crated and ready for market. It is not the separators that make the nice honey.

Delaware, Ohio.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
May 18.—	Linwood, at Eau Galle, Wis. B. J. Thompson, Sec., Waverly, Wis.
May 19.—	Nashua, at Nashua, Iowa. H. L. Rouse, Sec. Ionia, Iowa.
May 22.—	N. W. Ills. & S. W. Wis., at Rockton, Ills. D. A. Fuller, Sec., Cherry Valley, Ills.
May 31.—	Wis. Lake Shore Center, at Kiel, Wis. Ferd. Zastrow, Sec., Millhome, Wis.
Aug. 3.—	Ionia County, at Ionia, Mich. H. Smith, Sec., Ionia, Mich.
Aug. 14.—	Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.
Aug. 27.—	Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

New Honey—Early Swarm.—L. A. Miller, Covington, Tenn., on April 30, 1888, writes:

My bees have wintered well, out of 117 colonies only one having starved. I do not think that I ever have seen them in as good condition as they are now. Some of my colonies have stored 20 pounds each, of new honey in sections, which was put on the market on April 20. I had a swarm on April 4. White clover is beginning to bloom.

Condition of Bees in Missouri.—John Nebel & Son, High Hill, Mo., on May 4, 1888, write:

Bees are doing fairly well, now that we have had a week of warm weather. They came through the winter weaker, on an average, than we have known them to do in our ten years of bee-keeping. Stimulative feeding last fall would not induce queens to lay, consequently all colonies went into winter quarters with few bees, and the

most of those were old, leaving but few young bees to start and protect brood-rearing this spring, which commenced the latter part of March. We put into winter quarters on Dec. 1, 1887, 200 colonies in two cellars, where the temperature was kept at from 40° to 45°; on taking them out on March 26, we found our loss to be only 8 colonies. Bee-keepers in this vicinity, who work on the let-alone plan, have lost nearly all. There was great loss of bees in this State the past winter, and it will take several years to replace them. If we are favored with occasional rains, we may expect a surplus from clover, though the drouth of last year killed most of it, and the dry spell we had during last month, has done it a great injury. We find some clover looking exceedingly well.

Not a Colony Lost.—Lewis Carbino, Potsdam, N. Y., on April 26, 1888, says:

I put out my bees to-day, and found them all right. I had 42 colonies in a bee-house, and all wintered in good condition.

Bees are Swarming.—Mr. Jos. E. Shaver, Friedens, Va., on April 30, 1888, writes:

Bees are doing well now on fruit blossoms. I have not had any swarms yet, but one of my neighbors had a swarm yesterday, and another neighbor had a fine swarm to-day, which he saved; but the one who had the swarm yesterday, was not ready, and had to go 2½ miles to get fixtures before he could hive the bees; when he returned the bees had become tired waiting, and left for the woods. The weather is very fine now.

I have received two packages of the Chapman honey-plant seed from the Commissioner of Agriculture, and the seed of the first package is up and growing finely. A friend of mine sent for some later, and he received seed of sweet clover, or melilot.

Drones Flying, etc.—Geo. W. Morris, Cornishville, Ky., on May 2, 1888, says:

I have had drones flying for three weeks, but this morning I found quite a number of them dead at the front of the hives. I suppose that the cool weather which we are having at present, is the cause. My colonies are more popolous than I have ever had them this early, but the prospect for white clover is very limited at present. I have received a package of the Chapman honey-plant seed from the Commissioner of Agriculture, and will plant it in a few days. Will some one in northern Alabama inform me how it would do as a location for an apiary.

Beginning in Bee-Keeping.—L. W. Lighty, Mulberry, Pa., writes as follows:

"Buy black bees in box-hives, transfer them to frame hives, and Italianize them." The foregoing advice I see so frequently; I saw it in about the first bee-paper that I ever read, and to my sorrow. My experience and observation both show me that the advice is wrong. I have seen dozens of failures by following it.

I once bought 3 colonies of bees in box-hives, and as they were strong colonies, I concluded that I needed some one to help me to bring them home. I employed an old bee-keeper, with smoker, etc.; but we did not secure the bees. A few days later I had a greater bee-man to help me, with his implement, and he vowed that they must be queer bees if we could not bring them home; again we did not do it, but were stung half to death. We left those bees until winter, in zero weather, and then had to go twice before we could conquer them. If I would have bought a colony of fine Italian bees, in a frame hive, in the beginning, I would have been better off in dollars, and would also have escaped many stings. I could then have studied the habits of the bees with more satisfaction, and less pain. I could relate the experience of others, but it would not be very instructive, as they generally gave up bee-keeping in disgust, and never tried it again. My advice is this: Buy a colony of gentle Italians in a movable-frame hive, and become acquainted with bees before you try to perform such operations as transferring or Italianizing.

Hiving Swarms Early, etc.—Mrs. S. E. Sherman, Salado, Tex., on April 27, 1888, says:

The prospects are very flattering here for a good honey crop. I have had 15 swarms, and would have had many more, had I not cut out queen-cells, and given the bees more room, shade and ventilation. I secured 14 of the queens in the queen-cage and drone-trap combined. There has been no climbing of trees, not a twig has been cut, and they have all been hived without any trouble. My hives are running over with bees.

Severe Winter and Cold Spring.—Wm. B. Ray, Alaska, Wis., on May 7, 1888, says:

Bees have wintered well here. The winter was a very severe one, with a very cold April following. There has been only two days when bees could fly.

Late Spring—Colonies Starved.—Charlie W. Bradish, Houseville, N. Y., on May 7, 1888, writes:

Bees have wintered in poor condition in this part of the country. It has been a very late spring, and many colonies have starved. I have just finished putting bees out; when I unite what weak colonies I have, my loss will be about one-third. The first pollen was gathered on May 5, from willows.

The Shaking or Palsy Bee-Disease.—N. M. Middlebrook, Patterson, Tex., on April 22, 1888, says:

My bees have been dying badly since last fall, with the shaking or palsy disease. I never saw the like before. Out of 56 colonies, 46 or 48 have the disease badly. I have lost 8 colonies, and of some of them, the ground in front of the hive has been covered every day since early last fall. Several colonies now show only a little of the symptoms of the disease. I have had several swarms.

How the Bees have Wintered.—O. R. Goodno, Carson City, Mich., on May 5, 1888, writes:

It is hard to guess the result of the wintering of the bees the past winter. I put 105 colonies in the cellar, and on March 19 I took out 100 colonies, and returned them the next day. On April 25 I took them out again, with six more dead ones, and many more have since died. The nights have been cold, and ice formed as thick as window-glass. More bees will die. I had outdoors 28 colonies in Root chaff hives, and on March 19 three colonies were dead, and since then several more have died. The weather is too cold to try to examine them. Soft maple, elm, and a portion of the willows have past their bloom, without giving the bees a chance to visit their flowers. The few box-elders within reach of my bees are visited when it is warm enough for bees to fly. It is anything but encouraging, so far, but it reminds me of the Dutchman who bought an organ to place in his saloon to draw custom. It was effectual; he held his crowd until a late hour, when Catherina, his wife, came down stairs, and ordered the music stopped. To this Hans said: "What for you s'pose I buy that *origon?* Wind her up, John!" So with the bee-business—wind her up again; make it boom if possible.

Good Honey Season Expected.—A. R. Simpson, State Line, Ind., on May 8, 1888, says:

The prospect is favorable for a good honey season in this locality. We are having good rains each week, that will bring out white clover, which is our principal honey source.

Cold and Backward Spring.—Alex. Sherington, Dutton, Mich., on May 4, 1888, writes:

It has been a very cold and backward spring. When soft maple and elm was in bloom, it was so cold that the bees could not fly, but the last week of April they did very well on willows. The hard maples are blooming, and the weather is damp. The spring of 1886 I bought one colony of bees for $8.00, increased them to 4 colonies, and took 100 pounds of comb honey in one-pound sections. The winter of 1886-87 I wintered my bees on the summer stands, packed in straw, and had no loss. Last season was a poor one, but I increased the 4 colonies to 12, by natural swarming, and obtained 150 pounds of honey from Alsike clover and linden. I had one colony that was hived on June 12, and on July 4 it had three brood-chambers full, and 38 one-pound sections of linden honey. The past winter I lost 5 colonies, and all the rest were in good condition except one, and that was very weak. On April 25 I unpacked my bees, and by changing them around, I have the weak one as strong as any. On April 27 I caught a small swarm on the fence; I took it home, hived it on 5 frames full of comb, and a frame of brood, and now I have a very fine colony.

Results of the Season.—Mr. Wm. Crowley, Redwood Falls, Minn., reports thus:

After putting 20 colonies in the cellar in November, 1886, I began to figure on adopting a hive and improving my strain of bees for the next season. Upon these two features, with a little care and attention, depends the crop of surplus honey. I sent to apiarists in different parts of the United States for samples of the hives they used, and also bought an extractor, and a circular-saw for making hives. After the samples arrived, I examined each one carefully, and found some good points in each of them, and also some features that I did not like. It costs money to change the fixtures of a large apiary to keep up with the times. I finally constructed a hive incorporating the desirable functions of each of them, leaving out the objectionable ones, according to my opinion. I have named it the Minnesota hive. It takes a frame the same as the Langstroth hive, except the frame is 1-inch shorter; a super holding four tiers of one-pound boxes just fits on top of the hives. When spring arrived I put my bees out on April 9, a little too early. One-fourth of them were rather weak, and one queenless with a drone layer.

I Italianized my apiary, and gave my new hives a fair trial, hoping to get a crop of surplus honey. I found it a difficult job to transfer my bees and combs from old hives into new ones. I purchased two more imported queens in 1887, as I found that foreign blood introduced into my apiary had started a boom. Too much increase will lessen the crop of surplus honey, so I made only 23 swarms, worth $5 each, $115; 1,000 pounds of extracted honey, at 15 cents, $150; and 500 pounds of comb honey in one-pound sections, at 20 cents, $100. My total income was $365. I obtained an average of 75 pounds of surplus honey per colony, spring count, and a profit of $18.25 per colony. One colony from my choice strain of bees stored 140 pounds of comb honey in one-pound sections last summer, besides enough to winter on. The season of 1887 was poor for honey, there being only one-half of a crop in the United States, although Minnesota was better than the average. I have put in a hard winter's work making hives and fixtures, and getting ready for the season of 1888, hoping for better results than last year.

Fine Weather for Bees.—Leslie Stewart, Jefferson, N. Y., on May 7, 1888, writes:

My bees are in fine condition, though not removed from the cellar until April 26. They had large quantities of brood in all stages, and some young bees, when removed to the summer stands. They have wintered without loss. The weather is fine, and the bees are working for all they are worth on willow and soft maple. We have had a very late spring. White clover is in good condition, and I shall look for a grand honey crop during the season of 1888. The loss in wintering in this part of the country is about 10 per cent.

Bee-Keeping in Nebraska.—Geo. Gale, of Adams, Nebr., on April 27, 1888, writes:

The season of 1887 was dry, and consequently a very poor one for bees. I commenced in the spring of 1887 with 12 colonies, and 2 were robbed by the others in May. I had only one swarm, and the bees made very little above a living until September, when they stored a little surplus. I had 400 pounds of comb honey, and 100 pounds of extracted honey. One colony produced over 100 pounds of comb honey. My bees are blacks. I lost 3 colonies the past winter, but all had honey enough; one was destroyed by mice, and the others were probably queenless. Very few bee-keepers here had any increase last season, and I do not know of any that obtained more surplus honey than I did. Some of the largest and oldest bee-keepers lost more than half of their colonies last summer before the fall honey-flow commenced. I think that the bees which survived the drouth last summer, have wintered very well. The weather is as fine as could be wished for, and prospects for the season are now good. Wild plums are now in full bloom, and the bees are working on them. Our bees stored no white honey last season until late, and that was from a species of thorough-wort that grows in the timber land.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Honey and Beeswax Market.

DETROIT.

HONEY.—Best white in one-pound sections, 15c. Extracted, 9@10c. Large supply and few sales.
BEESWAX.—23@24c.
Apr. 24. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 15@16c. for best one-lb. sections; other grades are slow, at lower prices. Extracted, 7@8c. Light demand, and supply larger than usual at this season of the year.
BEESWAX.—23c. R. A. BURNETT,
May 1. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.
Mar. 19. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St,

CINCINNATI

HONEY.—We quote extracted at 4@9c. per lb., for which demand is good. Comb honey, 14@17c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Apr. 23. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.
Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs., 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Mar. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 6@7c. Market quiet.
BEESWAX.—18@21c.
Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

Your Full Address, plainly written is very essential in order to avoid mistakes.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck; 20 cents per lb.—by express or freight.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

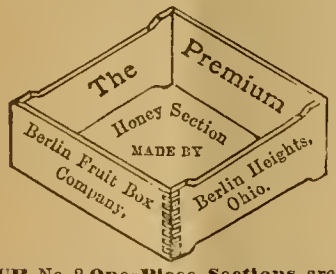
Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Advertisements.



OUR No. 2 **One-Piece Sections** are the cheapest in use—$2.60 per M. No. 1 are the best in use—$3.60. These are 4¼x4¼, of various widths. Address as in cut. 20A4t

Mention the American Bee Journal.

FOR SALE.

35 **COLONIES** of Italian Bees in Langstroth hives made frost-proof. Apply to,
20A2t PETER DIXON, Saginaw, Mich.

Mention the American Bee Journal.

ITALIANS on Langstroth frames—Two-frame Nucleus (no Queen) $1.25; 3-frame, $1.75. Each Nucleus to contain frames filled with brood and a plenty of bees. Orders filled promptly. TESTED QUEENS, $2.00; Untested, after May 20, $1. BEES per Pound, after May 20, 65 cents. Safe arrival and satisfaction guaranteed. No foul brood.

19A4t **H. L. Pangborn, Maquoketa, Iowa.**

Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

The Bee-Keepers' Review

FOR MAY is now out. Having regained the time lost during his illness, the editor will hereafter take pride in getting out the REVIEW promptly on the 10th of each month.

The special topic of the present Number is "Hiving Bees." The review of Mr. Cheshire's work, which was begun in the March No., is finished in the present issue. We have a surplus of the Numbers containing this review, and, so long as they last, these three Numbers will be sent free to all who apply.

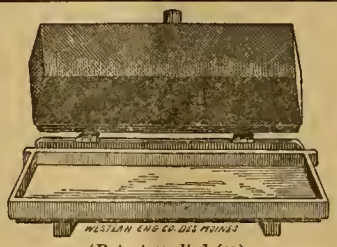
☞ Price of the REVIEW, **50 cts.** a year.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, **W. Z. HUTCHINSON,**
20Atf 613 Wood St., FLINT, MICHIGAN.

Mention the American Bee Journal.



(Patent applied for).

BEST FOUNDATION FASTENER for Brood-Frames and Sections. Description and Illustration sent free on application.

J. W. BITTENBENDER,
20Etf KNOXVILLE, Marion Co., IOWA.

7 per cent. OFF

ON **SECTIONS,** from prices given in price-list. We make **four grades of COMB FOUNDATION—Heavy Brood, Light Brood, Thin & Extra Thin** for Sections.

☞ Send for free Price-List and Samples.—**Dealers,** write for special prices.

Address, **M. H. HUNT,**
Bell Branch, Wayne Co., Mich. (near Detroit).
2Etf

Mention the American Bee Journal.

SAMPLE **COPIES** of the **AMERICAN APICULTURIST** and our Price-List of Winter Strain of Pure Italian Bees sent free. Address,
18Etf **APICULTURIST,** Wenham, Mass.

OUR ILLUSTRATED

CATALOGUE FOR 1888

WILL be mailed free to any one who is not already supplied with it. Send us your address, *plainly written,* on a Postal Card.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St., - CHICAGO, ILLS.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.

WANTED,

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., - CHICAGO, ILLS.

SMITH & SMITH

We have one of the largest

Bee-Hive Factories in the World.

☞ If you are interested in BEES, send for our Price-List—*Free.* Good GOODS, and fair Prices. Address, **SMITH & SMITH,**
10Etf KENTON, Hardin Co., O.

BEE-SUPPLIES, RETAIL AND Wholesale.

The Largest Steam-Power Shops in the West; exclusively used to make **Everything** needed in the Apiary, of practical construction and at **Lowest Prices. Italian** Bees, Queens, 12 styles of Bee-Hives, Sections, Honey-Extractors, Bee-Smokers, Bee-Feeders, Comb Foundation, and everything used by Bee-Keepers always on hand. My Illustrated Catalogue FREE. **E. Kretchmer,**
16Etf **Coburg, Iowa.**

Mention the American Bee Journal.

THE NEW HEDDON HIVE

NAILED AND PAINTED.

WE have a **FEW** of the above hives, all complete, for sale, at $4.00 each. As we do not handle these hives this year, we cannot fill orders for them in the flat. Those nailed and painted are left from last year's stock.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

100 **COLONIES** of **Italian** and **Hybrid Bees** for Sale at bottom prices. Also, JAPANESE BUCKWHEAT for Seed. It has a profuse bloom and is wonderfully productive.—Write for prices. **A. J. & E. HATFIELD,**
14Etf SOUTH BEND, IND.

Mention the American Bee Journal.

Eaton's Improved **SECTION-CASE.** BEES & QUEENS. Send for free catalogue. Address **FRANK A. EATON,**
7Etf BLUFFTON, OHIO.

Mention the American Bee Journal.

ITALIAN BEES and QUEENS.

ONE Untested Queen, $1.00; 3 for $2.00. BEES by the Pound and Nucleus. Send for Price-List.

Address, **H. G. FRAME,**
9E13t **North Manchester, Ind.**

Mention the American Bee Journal.

IMPORTED QUEENS.

FRIENDS: I have QUEENS in my Apiary as fine and as good as you can import to the free land of America. My Bees equal any that ever spread wing 'neath the sunny skies of Italy. You have but to try them and be convinced. Untested, $1; Tested, $2; Select Tested, $2.50; Standard Breeders, $3.00. BEES by the lb., $1; Frame of Brood, 75 cts.

R. H. CAMPBELL, (Lock Box 215),
12E12t MADISON, Morgan Co., GEORGIA.

Mention the American Bee Journal.

2-Story Langstroth Hive, 80c.

WE still have a few of those Two-Story **Langstroth HIVES** with 10 Brood-Frames, at **80 cents.**

Who wants them? Speak QUICK, or it will be too late. Address,

SMITH & SMITH,
10Etf KENTON, Hardin Co., OHIO.

Mention the American Bee Journal.

LOOK HERE! **If You Think** of giving the Betsinger Case or the Paper Box a trial the coming season, send for Circular and Prices of these, and other **BEE-SUPPLIES.** If you wish to have your honey crop in the best shape for market, do not fail to send me your address (written plainly) on a postal card. **A. M. GANDER,**
14E4t (Box 591), ADRIAN, MICH.

Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. May 23, 1888. No. 21.

EDITORIAL BUZZINGS.

Many Bees Need Feeding during this cold and unseasonable weather. Do not let them starve just before the harvest is ready.

Every Apiarist should be well informed, not only on the habits, but also on the natural history of the honey-bee.

Another lot of statistical information is presented in *Gleanings* for May 15, from which we learn that the majority report the prospects favorable for a good honey crop.

In Reference to Mr. Moyer's letter, and our comments on page 307, he says that he is in favor of getting statistics, but not by the Government and assessors. So many are now engaged in gathering statistics that it may not be necessary for the assessors to "take a hand" in it.

Bees are not Malable to Canada. We received an intimation of this from Dr. S. W. Morrisou, of Oxford, Pa., and immediately wrote to Mr. Bell, Superintendent of Foreign Mails at Washington, for the facts in the case, and here is his reply:

WASHINGTON, D. C., May 16, 1888.

SIR:—In reply to your letter of the 14th inst., I have to inform you that under the Postal Convention now in force between the United States and Canada, queen-bees are absolutely *excluded* from the mails exchanged between the two countries, and consequently are not allowed to be forwarded by mail from the U.S. to Canada.

A proposal has been made to the Canada office to so modify the Convention as to admit, for the future, queen-bees to the mails: should it be accepted by the Canada office, public notice thereof will be promptly given.

N. M. BELL,
Supt. of Foreign Mails.

Alfalfa.—Mr. C. Thielmann, of Thielmanton, Minn., writes us as follows concerning the difference between alfalfa and lucerne clover:

There is a great difference in the illustrations on pages 68 and 245. The first shows exactly the clover which my father cultivated in Germany (Baden), and which has been planted in that country for centuries back. It did not hold out very long in white clay soil; but was a good stand for hay and green fodder for 20 years on rocky, lime-stony soil. We had no sandy land there, and so I do not know how it will do on it. The illustration on page 245, resembles the clover which I have seen on the Pacific Coast, and was called alfalfa. I am sorry to say that at that time I did not feel so much interested in the plant as I do now, and I did not examine it very closely, but I noticed enough in going by to see that it was not exactly like our German alfalfa, or, as we called it, everlasting clover. In Switzerland it was called lucerne. There is also a county in Switzerland called Lucern. The most noted difference seems to be that, the stalks of the German alfalfa are larger, the leaves larger and longer, and the seeds or flowers further apart, though the difference may result from the land or climate.

The difference is probably similar to sweet clover—the common variety is called melilot, while the imported is Bokhara clover. Lucerne is the common variety, while the alfalfa (or sand lucerne) is the imported article, and costs more than the common article, as does Bokhara clover cost more than melilot.

To Strengthen Weak Colonies is good advice for Spring management. Mr. E. K. Hubbard, in the *Indiana Farmer*, gives this advice on the subject:

It is an excellent plan to equalize the strength of your colonies in the spring, and instead of having a few very weak and the rest very strong, bring up the weak ones by taking from the others and giving to them. The reason why this can be profitably done is that giving brood to a weak colony will do more good than to leave it in the strong colony. A good colony can spare a frame of brood, and still keep full of bees, but if enough brood is taken away to show, in a few days, that they have been materially weakened, the matter has been over-done, and it would have been better to leave them alone. A full colony will gather many times more honey than several weak ones, but by intelligent and careful management all colonies may be brought up to near the same standard, and the good ones not materially injured.

Rendering Beeswax.—The London *Gardener's Chronicle* recommends as a simple method of obtaining clean beeswax direct from the comb, that the latter be melted in hot water, and a hoop that will fit into the container, covered with cheesecloth, fastened down into it below the surface of the water. The melted wax rises to the surface through the cloth, and when the water is cool, is found on top in a perfectly clean cake.

Foul Brood seems to be very prevalent in many portions of Australia, as we notice from the April number of the *Australasian Bee Journal*, which has just come to hand.

Putting Supers On.—A few timely suggestions are given to beginners, and those who are not thoroughly posted in apiculture, by Mr. W. S. Cullinan, of Kansas City, Mo., in the *Farmers' Review* for this week. After mentioning the importance which attaches to the time and manner of putting on and taking off the supers, he remarks thus:

Doubtless white clover is now in bloom, and it will be time to have the supers in place, especially upon strong colonies. If you have studied the condition of your bees, you will know the colonies that are needing more room, and by all means you should be ready to supply it. If working for comb honey, you should have your supers filled with sections, which have been previously supplied with comb foundation, and give to each colony one case of sections—no more. Many specialists who work their bees for comb honey contract the brood-chamber to 5 or 6 frames before giving the first case of sections; this gives the bees less room below, and less brood to take care of, and so drives a greater number of them into the supers, by which, of course, more surplus is secured. Should any one wish to practice this method, all they will need to do is to remove one or two frames from each side of the brood-chambers, and substitute a division-board or dummy in their stead. The division-board should be of the same dimensions as the frame, and have projecting tops, so as to hang in the hive just as the frames do, and one of them should take the place of each frame removed, for if the space occupied by a frame in the brood-chamber be left vacant, the bees will certainly fill it with honey when they become crowded for room.

The British Honey Company seems to have been unsuccessful in business, and it is proposed to wind up its affairs. The following from the *British Bee Journal* for May 3, 1888, will explain the matter better than we can otherwise do:

We very much regret to announce that we have received a circular intimating that a meeting of the above company will be held at Charing Cross Hotel on May 10, when the following resolution will be proposed, "That it has been proved to the satisfaction of the meeting that the company cannot, by reason of its liabilities, continue its business, and that it is advisable to wind up the same voluntarily."

The Best of its Class.—This is what the Bath, Maine, *Sentinel* says about our BEE JOURNAL and bee-book:

The BEE JOURNAL is the best of its class, and "Bees and Honey" not only the latest, but the best among the works on the apiary and the honey-bee. It is profusely illustrated, and the text careful, concise and to the point. Its arrangement is good.

New Catalogues for 1888 are on our desk, from the following persons:

George Neighbour & Sons, 149 Regent St., W. London, England—64 pages—Bee-Hives and Appliances.

Dr. G. L. Tinker, New Philadelphia, O.—16 pages—Bees, Queens and Bee-Keepers' Supplies.

B. P. Barber & Son, Colebrook, O.—16 pages—Bee-Keepers' Supplies, Fowls, Turkeys, etc.

J. B. Haines, Bedford, O.—8 pages—Bees, Queens and Apiarian Supplies.

GLEANINGS OF NEWS.

THREE-SIDED HIVES.

Mention has several times been made in these columns of a three-sided hive made by D. Chalmers, of Poole, Ont. As we intend to keep our readers posted on the "developments of the times," we present the features of this hive with engravings from the *Canadian Honey Producer*. Mr. Chalmers does not claim to have invented any new kind of a hive, and the name "three-sided hive" is a misnomer. This is Mr. Chalmers' own description of what his invention consists:

New and useful improvements in bee-hives, consisting of movable sides, and a cut in the ends of the frames, by which the frames are suspended on iron slides, and one side of which engages a groove in the inner center of the ends of the hive, while the other side projects far enough to support the frames in C, a transverse groove in the center of the ends of the frames of about 11-32 of an inch in width; the slides pass

through the ends of the side pieces of the hive as well, and can be slipped in or out from either side; they are well adapted for supporting the frames, and at the same time are so secured that they cannot spring or bend under the weight.

When the hive is inverted, the comb frames drop 5-16 of an inch, and thus resume the same relative position as before. It is immaterial which side of the hive is up, and should the manipulator see fit to invert it, he may rest assured that on his return he will find the frames retaining their position, without danger of dropping out of place.

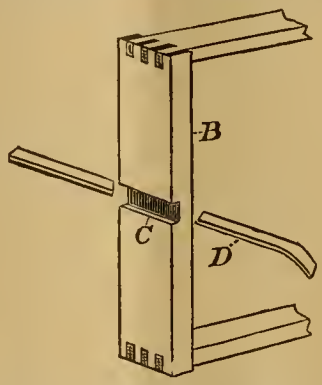
B indicates the comb-frames which are 5-16 of an inch less in verticle dimensions than the hive, so that when the latter is in position, the upper level of the top hive giving full bee-space between the top of the frames and the honey-board; they also hang slightly below the bottom of the hive.

By this arrangement it will be seen that when the latter is placed across the bottom-board, or of level pieces, that the frames will be raised to a degree sufficient to relieve the slides, which can then be easily withdrawn, allowing any of the frames to be taken out, or the hive lifted off, all frames at once, or without either changing the position of the hive or removing the slides, but simply by detaching the side, the manipulation is readily accomplished.

The reader will understand at a glance how nicely the movable-side works with my plan of suspending frames with closed ends, the method of securing adjustable side is yet incomplete, it should have spring enough to come and go with closed-end frames (or sections side by side) as affected by weather.

The bottom-board is also invertible. It is made of a board of equal width with the interior of the hive, with pieces nailed to the sides, and one end corresponding in thickness with the sides of the hive, and wide enough to project ⅜ of an inch on one side, and ¾ of an inch or more on the other side of the board; the former is for summer, and the latter for winter use, and requires to be turned up in early fall.

The winter extension I do not claim, but I am told that it is the invention of Mr. J.



B. Young, of Stratford (I also saw in a late issue of the AMERICAN BEE JOURNAL a similar board described, so far as I have gone). Across the center on the summer side of this board I drive a row of strong wire nails until the top of their heads come level with the top of the ledges, one nail under each frame. This is to prevent the frames from sagging; the interior of the frames are supported by a strong wire which reaches from the lower to the upper bar, and the frames in the cases above (should there be any) by a piece of tin 5-16 of an inch in width, which stands on the edge on the frames below. It is **T**-shaped on either end, and its position is maintained by those ends being placed between the lower and upper side frames.

The honey-board is made of woven strips of wood (same as window blinds); they are strong enough to carry their own weight across the hive, and only being propolized around the under edge of the hive, are easily ripped off.

The top, as shown in the engraving, consists of four narrow pieces being nailed together, rabbeted on one edge to rest on the hive. This is used for spring and fall packing, and in hot weather it keeps the cover at a distance from the combs and bees. The roof is flat, and is held in place by cleats being nailed to the lower side of it, which slips inside of the box.

The North American Convention was to have been held at Toledo next fall. It is proposed to change it to Columbus, O., and the following circular has been sent to each member to ascertain the views and votes in the matter:

Owing to the holding of the Ohio Centennial Exposition, at Columbus, O., from Sept. 4 to Oct. 19, next, and the consequent reduction of railroad fares, a goodly number of the members of the North American Bee-Keepers' Society, among whom are Miss Bennett, Messrs. Thos. G. Newman, A. I. Root, Eugene Secor, R.F.Holterman, James Heddon, Geo. E. Hilton, Dr. C. C. Miller, H. R. Boardman and Prof. Cook, have expressed the wish to have the place of the next meeting changed from Toledo to Columbus, and the executive committee has been urged to make the change, but the members of the committee are unanimous in the opinion that they have no more power to make the change than have any other members of the society; but at the request of some of the above named, and others, and in accordance with the best judgment of the committee, this circular has been prepared, and will be sent to every member of the society who has not already expressed their preference to the committee, and the request is that each one receiving this will say on the enclosed postal whether he or she is in favor of the change or not, and, if not, whether he or she is willing to abide by the wish of the majority. In corresponding, about 200, all who have expressed their preference, are in favor of Columbus. Please do not lay this aside, and make it necessary to write to you again, but put your answer on the enclosed postal card and return it at once.

A. B. MASON, *Pres.*
W. Z. HUTCHINSON, *Sec.*
MRS. L. HARRISON, *Treas.*
Executive Committee.

Swarming.—Mr. A. H. Duff, Creighton, O., gives his views upon the above subject in the *City and Country* in these words:

Excessive swarming is very detrimental to the crops of surplus honey, and to produce the best results in surplus, swarming must be controlled to quite an extent. To place a colony in the best possible condition for storing honey, is placing it in a condition to swarm also. The perquisites some colonies have for swarming is often very perplexing, and every manner of persuasion will finally wear out with them. We have found that if colonies are in first-class condition, or very strong in numbers at the opening of the honey flow, they are nearing the swarming point, and we can gain pounds by allowing a division, or a first swarm to issue. Too many bees can be kept in one hive to make it profitable, but, of course, we have reference only to powerful colonies, and would not wish to convey the idea that any profit can be obtained from weak colonies. Strong colonies is the road, and the only road, leading to large honey crops.

One of the most important points in securing large crops of honey is to give abundance of room for the bees to store it. This is also one of the best preventives of swarming. In the Italians and the other new races, however, this is not a decided prevention, but has some effect. But if this fails, and preparation is commenced (which will be the construction of queen-cells), we can postpone it by removing the queen-cells. This may be followed up just as long as it will produce the desired effect. This will oftentimes wear out, and the swarm, being tired of this kind of treatment, will come forth, leaving behind no trace of queen-cells whatever. There is but one remedy left, provided we wish them to occupy the hive as formerly. This is to take their queen away from them, and put them back again as before. This compels them to remain until young queens are reared, which will require 8 or 10 days.

Queenless colonies may for a time do well, but certain destruction is sure to follow if they are not provided with the same in due time. If a colony in the act of storing surplus should swarm, and the swarm hived to itself, the surplus receptacles should follow the swarm, as they can be brought to the condition for storing much sooner than the parent colony from which they issued.

All second or after-swarms are a failure if surplus honey is the object. After-swarms may be prevented by removing all queen-cells but one, or, what is better, remove all and introduce a fertile queen, of which a supply should always be on hand for such emergencies.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

May 31.—Wis. Lake Shore Center, at Kiel, Wis.
Ferd. Zastrow, Sec., Millhome, Wis.

Aug. 3.—Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Wintering on Summer Stands.—Locke Ferree, Milroy, Ind., on May 12, 1888, says:

I winter my bees in the Langstroth hive, on the summer stands, with a ¼-inch pine board laid across the frames, with a bee-passage over the frames and under the board. I use no cloth, but a piece of muslin laid over the boards.

I notice that some bee-keepers are not receiving the Chapman honey-plant seed readily from Washington. I received mine in a very few days after I sent for it, but it seems a little tardy about coming up.

Bees Wintered Finely, etc.—Mr. John H. Martin, Hartford, N. Y., on May 8, 1888, says:

My bees have wintered finely, and I am hoping for a good honey season.

We are going to have a grand food products' exhibition at Albany, on Sept. 10 to 15. This was first started as a State exhibition, but it is now an assured fact that all portions of the country will be represented. If bee-men desire to make an instructive exhibit, this is a good opportunity. A space 12x12½ feet will be given to exhibitors for an entry fee of $10. I propose to make an exhibit. Are there other bee-men who will also exhibit? I will send a "bulletin" to any one who may desire to exhibit.

Good Outlook for Honey.—Mr. Francis M. Merritt, Andrew, Iowa, on May 12, 1888, writes:

Owing to the backward spring, bees are not gaining very fast. They gathered natural pollen on April 1, but extreme cold weather beginning about that time, the pollen-bearing plants failed to bloom, until about a week ago. I wintered 3 colonies of bees last winter, and have bought 5 more this spring; some of them were in quite a weak condition. The outlook for honey this year is very good. White clover is just blooming, owing to a week's steady rain. To-day is cold, the mercury indicating 6° above the freezing point.

Losses in Wintering, etc.—M. O. Tuttle, Osage, Iowa, on May 9, 1888, writes:

Sometime in March I reported my own anticipations and predictions for the wintering of the bees of this county. From what I have learned, I think that more than 50 per cent. of the number of colonies on Sept. 1, 1887, are now dead. As I stated before, I put 170 colonies in the cellar on Nov. 16 to 19, 1887. On April 7, 1888, I took 50 colonies out. On April 23 I took the rest out, and 168 colonies were lively and apparently in fine condition. I soon found that 2 colonies were queenless, but had plenty of bees and stores. I have united some, as I prefer to lessen my number of colonies for the season, and I shall continue to unite when the weather is favorable. The past two weeks has been rainy, and the thirsty earth is getting a good drink. Our prospects for some clover is good.

Susquehanna County Convention.—H. M. Seeley, of Harford, Pa., the Secretary of the Association, send the following condensed report:

The Susquehanna County Bee-Keepers' Association met at New Milford, Pa., on May 5, 1888. The meeting was called to order by President E. B. Smith, and then followed essays and discussions on the various questions pertaining to bee-culture. Taken altogether, it was a very enjoyable meeting, and doubtless of much benefit to those in attendance. Bees in this vicinity have wintered finely, but few being lost, but those that came through are in good condition. We have at present but 21 members, 16 of whom were present at the meeting. It is the wish of the association to have the name of all persons in the county who keep bees, on the roll as members; and it is intended to hold the meetings in the different towns in the county, to make it as convenient as possible for all to attend. The next meeting will be held in Montrose, Pa., on Sept. 8, 1888.

Very Rainy Weather.—C. Thielmann, Thielmanton, Minn., on May 9, 1888, writes:

My bees have been confined for about 10 days, on account of wet weather. It rained nearly day and night. The ground is flooded, and creeks and rivers are overflowing. There is only a little seeding done here, as we cannot get into the fields for a number of days yet, even if the weather should be good. It is raining now, and there is no signs of any good weather. I have lived for 31 years, but I never saw such weather at this time of the year. We could always seed in April, with a few exceptions, which was then done in May.

I have just seen the Zumbro river. It is very high, and has hardly been within its banks for the past five weeks. In my estimation, more water has passed here in this river in the five weeks, than in four or five years altogether heretofore. Yesterday was the first day that the railroad trains have run regularly since April 9, and we expect another tear up to-morrow. It has rained very heavily the past 24 hours.

Prospects for the Season.—John Blodget, Flag Springs, Mo., on May 14, 1888, writes:

Last October I packed 10 colonies of bees in chaff hives, and have lost only one colony. They are building up freely. Apple bloom has come and almost gone, and dandelion is in bloom. The weather has been so changeable that the bees could not work half of the time. We have had heavy rains, and the ground is more watered than it has been for four years. I think what white clover there is, will be good. I see ever so many young plants coming up after the rains, and it will be in good condition for another year. Most of the bees are dead in this locality, and what bees that are left will have plenty to work on. The black bees are all dead within three miles, so I can rear some fine bees from my young queens. I have started queen-cells. All my bees are pure Italians, except 1 or 2 colonies of good hybrids. All of my queens are reared from an imported mother. I think that every bee-keeper ought to have a pure queen to breed from, for the bees will deteriorate fast enough then, if he has neighbors that keep black bees.

Long Confinement of Bees, etc.—Wm. Malone, Newbern, Iowa, on May 11, 1888, writes:

I notice on page 312, that Mr. Eugene Secor kept his bees in the cellar 180 days. Some of mine were in 190 days. They were put in on Oct. 1, and taken out on April 1; this was for a test. Some were put in on Nov. 20, and 5 colonies were left out until the last of December; and those 5 were taken out the last of January, tucked up warm, and left out; I think that they are the strongest colonies in the yard to-day. Those that were left in 190 days are doing well. I winterep 47 colonies in a cave made for the bees, and 5 colonies on the summer stands. The temperature at which the bees are the most quiet is 40°, and the cave temperature has never been below that point.

One thing that bee-keepers should recollect when writing on the subject of hibernation is, that if hibernating animals, such as ants and snakes, be exposed to cold, freezing air for 30 minutes, there is no reviving them. They may be surrounded with frost for months and live; but 30 minutes of exposure as before stated, will kill them. Try it and see.

In 1887 I made a mistake in working 10 colonies for comb honey; and those 10 did little else but swarm. The 20 that I worked for extracted boney, stored 1,500 pounds, besides enough to winter them and the others—52 colonies in all. I had 5 colonies in the spring of 1887 that came nearly dying, and I had to feed them for winter. I lost 6 colonies last winter, 3 on the summer stands and 3 in the cave.

This has been a peculiar spring, being cold and dry up to May 5, and since then cold and wet. Buckeye is in full bloom, and the bees work hard when the sun shines. While I am writing I can hear the bees. A novice might think that the bees were swarming. Yesterday I prepared some colonies with two sets of combs, and if the weather is favorable, I will be extracting honey in a few days. I do not think that my bees were ever stronger on May 11, than they are this year.

A Peculiar Queen, etc.—Richard Rawlins, Okalona, Ark., on May 3, 1888, says:

Rattan is in bloom, but not in full bloom; the honey crop from this source promises to be better than usual. The strong colonies are storing honey in the third story now.

I noticed a queen, reared this year, which lays about half drone eggs intermingled with worker eggs in worker comb. She is not very prolific, but her bees are fine looking. Is she likely to overcome the weakness, or will she get worse?

[Most probably the queen will deteriorate, and it would be advisable to supersede her. —ED.]

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

QUERIES & REPLIES.

The Proper Time to Extract Honey.

Written for the American Bee Journal

Query 544.—I intend to work the greater portion of my apiary for extracted honey, and have been thinking of adopting the following plan to keep down the swarming fever: Allow the prime swarm to go out, then after the queen has been caged, remove the old hive a short distance, and place a new one on the old stand having a queen-excluder over the brood-frames. After the bees have been hived, I will shake all of the bees out of the old hive, and run them into the new one, then examine the old frames thoroughly and remove all queen-cells, after which I will put them in a super over the newly-hived bees. 1. How long should I wait before extracting from the super? 2. How am I to dispose of the drone-brood in the super? 3. Would it be advisable to adopt the above method?—Ontario.

1. Extract when about one-third of the honey is capped. 2. Shave their heads off as they are capped over.—P. L. VIALLON.

1. I would extract from the super as soon as the honey is sufficiently ripened. 2. Let it hatch. 3. No.—M. MAHIN.

Instead of taking so much trouble, use 2 hives full of comb on top of each other, and you will have very few swarms, if you give them room in time.—DADANT & SON.

1. I should wait until at least a third of the comb was capped. 2. Cut it out. 3. I can see nothing gained.—J. P. H. BROWN.

Look here, my friend, letting the bees swarm is not a "plan to keep down the swarming fever." I doubt if you will like the plan so well as to simply keep the honey extracted close. C. C. MILLER.

1. So much depends upon so many circumstances. 2. Cut it out before it hatches. 3. No; you wont like this plan. I have tested so many similar principles, that I should say, no.—JAMES HEDDON.

1. It will all depend upon circumstances. 2. Cut it out and melt it up. 3. Your method will work all right, and if you prefer that way, follow it until you find a better one.—H. D. CUTTING.

1. Wait until all is sealed, or nearly so. 2. I do not have any to dispose of. Use only worker-comb. If there are patches of drone-comb, cut them out and put pieces of foundation in their place. 3. It is a good plan, but the queen-excluder is not needed.—A. B. MASON.

I do not like the method in theory; I have never tried it. I have had but little trouble to control swarming, when working for extracted honey.—EUGENE SECOR.

1. Until your frames are filled and capped. 5. With a honey-knife, slice off the heads of the drone-brood before you put the frames in the supers. 3. It would be tolerably fair practice.—MRS. L. HARRISON.

1. It will probably not do first until all the brood is capped over. 2. Cut it out and insert worker-comb; but how about the drones above the zinc queen-excluders? 3. I think that there are several better plans.—C. H. DIBBERN.

1. You could extract at once. 2. I do not know, unless you cut it out, and replace the vacancies with worker-combs. 3. I hardly think your plan advisable. Why not use *large* hives? You will then be trouble but little with swarms?—J. M. HAMBAUGH.

The plan would doubtless work fairly well, but it seems to me that you should have no trouble with swarming when running an apiary for extracted honey. In my experience along this line, not one colony in ten have attempted to swarm.—G. M. DOOLITTLE.

1. Wait until all the brood is sealed over. 2. A small auger-hole in any suitable part of the hive above the queen-excluder will let out all of the drones. 3. In producing extracted honey, the method may be advised where no increase is desired.—G. L. TINKER.

1. Until the combs contain a considerable amount of well-ripened honey. 2. That depends. You might cut out the drone-brood and destroy it; or let it hatch and fly away, as from time to time you open the hive. 3. No; as but few colonies in an apiary properly managed for extracted honey will cast swarms; unless their queens are past their prime, I should remove the queen, return the swarm and permit them to rear a young queen.—R. L. TAYLOR.

This question, or the questions, involve a big theory. The best I can advise is to test it thoroughly and report. The plan snggested would not work at all in my own apiary, as it will cause more labor and trouble than I can afford to give my bees.—J. E. POND.

1. Until room was needed, or sooner if desired. 2. Why not prune, so as not to have drone-comb. 3. I think that the plan is not a good one, though I have not tried it. If the queen is to be caged, why not put bees back in the old hive, and put on the super full of empty combs; or, if you have not combs, use foundation.—A. J. COOK.

In your statement you fail to tell what is to be done with the old queen, and this is a very important matter in the final results. If the queen is to go with the swarm below the queen-excluder, you will delay swarming; but if the season is a lengthy one, you will most likely have it over again. 1. Till the honey is sealed over. 2. Raise the hive cover in the afternoon, and let the drones escape, and close it when they are out. Keep this up until all are out. 3. Not as you state it.—G. W. DEMAREE.

I have not found this plan to lessen the swarming-impulse. By this method you allow the prepartions for swarming to be matured, and the swarming to actually occur, and then place the colony in almost the condition in which it was before it swarmed. I would prefer putting the new hive under the old one prior to the building of queen-cells. In a majority of cases this will prevent swarming entirely.—J. M. SHUCK.

1. When the brood is sealed over. 2. Decapitate the drone-brood. 3. The plan is too laborious and uncertain.—THE EDITOR.

Are Drones Allowed to Enter Different Hives?

Written for the American Bee Journal

Query 545.—Will drones from one colony be permitted to go into hives of other bees without being troubled by them?—Dixie.

Yes, usually.—JAMES HEDDON.

Yes, they quite often do.—H. D. CUTTING.

Yes, sometimes.—P. L. VIALLON.

Yes, at times.—J. M. HAMBAUGH.

I am not sure.—EUGENE SECOR.

They will ordinarily.—MRS. L. HARRISON.

Yes, as a rule, but not always.—G. M. DOOLITTLE.

Yes, if strong colonies.—J. P. H. BROWN.

Yes, at times; no, at other times.—DADANT & SON.

Sometimes they will, and sometimes they will not.—A. B. MASON.

In the swarming season, or at any time when honey is being gathered plentifully, they will.—M. MAHIN.

Yes, at times when the "other bees" will tolerate their own drones.—R. L. TAYLOR.

Yes, often; perhaps always when drones are tolerated.—C. C. MILLER.

I think so, but I am not sure that they will in all cases.—A. J. COOK.

During swarming time they will, but not at other times, as a general rule.—G. L. TINKER.

When honey is plentiful they probably often do so, but not when it is scarce.—C. H. DIBBERN.

In my own yard they are allowed to mix indiscriminately, and to go from one hive to another without being troubled at all.—J. E. POND.

Drones are free commoners until the time of their destruction arrives. I have set apart a nucleus for queen-rearing without a drone or any drone-brood, and in a few days I have found hundreds of drones in it.—J. M. SHUCK.

No, not as a general rule. They are admitted by queenless colonies as a general thing, but not always. Drones *mark* their *location* just as do worker bees; and if you introduce them to queenless colonies after they have *marked* their location, they will return to the old stand as do worker-bees. I have often proven this by direct experiment. If they are removed from their home before they have been out, they will stay where you put them just as do young worker-bees.—G. W. DEMAREE.

They will, as I have positive proof of the fact. I have one colony that hatched out select drones (Italians of course) on Jan. 10; it is the only colony out of 60 that has drones now (Jan. 25). I have another colony that hatched out a young queen last week, and after she was hatched I looked into the hive and found 4 or 5 drones on the middle combs, and I know this particular colony had not had any drones since last July—of course they came from the colony that had the young drones, which is nearly in front of the one with the young queen.—R. H. CAMPBELL.

Bees will usually admit drones from other colonies when honey-gathering is going on and the colony is strong in numbers, if drones are welcomed in other hives.—THE EDITOR.

CONVENTION NOTICES.

☞ The next meeting of the N. W. Ills. and S. W. Wis. Bee-Keepers' Association will be held in Rockton, Ills., May 22, 1888. D. A. FULLER, *Sec.*

☞ The spring meeting of the Wisconsin Lake Shore Center Bee-Keepers' Association will be held on May 31, 1888, in Mueller's Hall, at Kiel, Wis.
FERD. ZASTROW, *Sec.*

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.
J. W. BUCHANAN, *Sec.*

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

CORRESPONDENCE.

WHITE CLOVER.

MRS. L. B. FLEMING.

My little maiden came to me,
Her small hands brimming over,
Not with the garden's choicest flowers,
But only sweet, white clover.

I took her gift, the while my thought
The long years traveled over—
When I, like her, with busy hands
Made wreaths of sweet, white clover.

I dream my childish dreams again,
In fairy land a rover,
A magic garland, this, I ween,
Though only sweet, white clover.

Yet much of life's best sweetness we
In homely things discover,
As honey-bees pass gaudy flowers,
To seek the low, white clover.

COMB HONEY.

The Best Methods for Obtaining a Good Article.

Written for the Eastern Farmer
BY E. P. CHURCHILL.

As the time is at hand for obtaining comb honey, a word about the methods to be employed may not be amiss.

No doubt shallow frames without comb tend to drive the bees into the sections; but at the same time the queen must be suppressed in her duty, namely, to keep the colony supplied with brood; for where there is ample vacant cells, the queen is sure to increase even beyond one's expectations. I believe that I first gave the origin of my own plan in the Lewiston *Journal*, a number of years ago, which is in full harmony with the instincts of the bees.

As the queen will only use comb $\frac{7}{8}$ of an inch thick, it must be shaved down to that depth. Now where there is much honey in the comb, it is to be extracted. But the combs must not be left, as it generally is, say $\frac{5}{8}$ of an inch or so apart. They are to be closed up to at least $\frac{3}{8}$ of an inch, and by using strips of wood $\frac{3}{8}$x$\frac{7}{8}$, with a large-headed tack driven in the edge $\frac{1}{4}$ of an inch from the top (the strip is half the length of the end-bar to the frame); these are now hung on the tin rest, and the frames crowded against them, one at each end of the frame next to the side of the hive, and so on. At last they are hung between the division-board and the last frame, and all crowded up close. Thus the frames are all spaced alike, and we can move the hives, and yet all is secure. Thus close, the bees cannot bulge much of the comb, and the queen is sure to use the natural thickness, which she has plenty of, and the bees are glad to enter the sections.

I am sure, too, that we need less comb in this way, and yet we are sure of more brood. I get nine frames into a hive only $11\frac{3}{4}$ inches wide; with even this number, the bees will work in the sections far better than in the old way, when crowded down on five or six combs, spaced away apart by bulged and thick comb. Such was sure to cause swarming, as instinct plainly teaches the bees that they must soon be unknown if no brood-room is provided; and how often we have found but little brood where there should have been an abundance, and yet the cause never occurred to us. This shaving and narrow spacing also prevents storing of pollen in the sections to a great extent, simply for the reason that there is plenty of room right among the brood, where it should be. Where one has a large number of colonies, there is a great saving in the comb, which is quite an item.

Of course for winter the combs are spread, and a "stay" like the above only $\frac{7}{8}$ of an inch would please any one when he comes to move the hives into and out of the cellar, as they are simple and cheap, and remain nicely in place. Try it.

After trying about every method, I have proved the above plan to be *the one*. Also that it pays to use full sheets of foundation in sections, and to cover the boxes up warmly, and then rest assured if there is honey in the field, it will be carried into the sections.

Hallowell, Me.

INCREASE.

Methods of Obtaining Comb and Extracted Honey, etc.

Read at the Nebraska State Convention
BY J. M. YOUNG.

Knowing the interest taken in the advancement of bee-culture, I improve this opportunity of making a short report of my labors in that direction. The honey crop of last season was considerably below the average in this part of the State, and in certain parts an almost total failure. The fall crop was very light, owing to the continued drouth during the summer months.

Fruit-bloom and the early blossoms of white clover put the bees in good condition, and kept them so until swarming; but they secured only enough nectar from these sources to build up rapidly, and not enough to store any surplus. White clover proved nearly, if not quite, a failure in this part of the country, so far as I know.

About June 20, there was a fine flow of honey from the basswood blossoms, which grow abundantly on the banks of the Missouri river, and all along our water-courses. This flow lasted two or three weeks, when it ceased, leaving the bees with well-filled hives and a fair surplus stored in the sections. The balance of the season furnished the bees only enough to keep them in good condition, and keep brood-rearing under good headway.

The present condition of bees in general is very good, with the exception of late swarms, which will starve long before spring. My bees, which are being wintered on the summer stands, began the winter with all the conditions favorable, the colonies being strong in numbers, and having an abundance of well-ripened honey.

During 13 years' experience in apiculture, I have always practiced outdoor wintering. By actual test and experience in this matter, I long ago arrived at the conclusion that bees wintered on the summer stands successfully, must have protection against the extremes of temperatures of the cold winters of Nebraska. The bees wintered with proper packing, invariably come through the winter stronger in numbers, build up more quickly in the spring with less dwindling, and are in better condition to receive the harvest than those in single-walled hives standing side by side.

The inventory of my apiary at this date (Dec. 31) shows that 73 colonies out of 96 are packed in chaff on the summer stands, and if my experience is anything like it has been heretofore, I do not expect to meet with any unusual losses in wintering.

Making Increase by Division.

While dividing colonies for increase is preferred throughout the country by a large majority of bee-keepers, I practice and prefer in my own apiary, "natural swarming," from the fact that apiculture is my sole occupation for a livelihood, and I work the business for all that is in it.

If the bee-keeper has plenty of time and extra combs, with which to supply his divided colonies, he will without a doubt succeed with this method. I will say this in behalf of dividing colonies, from the fact that I do not wish to be understood to say that bee-keeping cannot be made success financially without it, viz:

If increase is the bee-keeper's object, and he has plenty of comb foundation already drawn out, and plenty of money in his pocket, by all means use the dividing-method of increase. On the other hand, my experience has enabled me to arrive at the conclusion that *natural swarming* pays best, if dollars and cents is the object to be sought.

The question might be asked, how do you control swarming? I do not always do it, but then to a certain extent I do. Just as soon as the bees begin to show symptoms of swarming. I put on the sections, and keep the bees supplied with plenty of room, never allowing them to be idle if there is honey in the fields. In a few days after the first swarm issues, I open the hive from whence the swarm came, and remove all queen-cells but one, if there seems to be no newly-hatched queen present.

Some apiarists may claim that bees will swarm too much, but my experiments in that direction have proven to the contrary. From 76 colonies, spring count, I obtained only about 30 swarms altogether, for the season of 1887; and in summing up all my reports from year to year, I cannot find one instance whatever, of doubling my number of colonies by natural swarming.

Dividing colonies is a safe way to increase, and can be carried to almost any extent; and while I have said so much against it, I could not well dispense with this new improvement in bee-culture; for it is by this means that all my nuclei colonies are formed, and queens reared.

Comb and Extracted Honey.

Now a few words as to my method of obtaining comb and extracted honey: The apiary is worked for both comb and extracted honey, from the fact that there is to be found in any apiary a number of colonies that do not feel disposed to work in surplus sections; whenever colonies of this kind are found, they are supplied with an extra set of combs, and by this means they can be induced to store a fair surplus of honey to be extracted. In this way a portion of my apiary is "rigged up" with two sets of combs, for extracting purposes. When honey begins to come in fast, these combs are placed in the extractor about once a week (or just as often as necessary), and the honey taken out. I seldom disturb the lower story in extracting.

The rest of the apiary, being composed of all strong colonies, is supplied with sections whenever necessary. When one case is partly full, it is raised and an empty one placed under it. My favorite section for obtaining comb honey is the 4¼x4¼ inches. I use two widths, namely, the 1⅞-inch and the 2-inch. Which width is the best, I am not prepared to say.

My market demands a section that holds a pounds of honey; sometimes I get this pound in the 1⅞-inch section, and oftimes in the 2-inch section. My judgment, based upon experience is, that a section which will hold as nearly as practicable one pound of honey, is what the trade and market demand.

In conclusion I will state that the season's work for 1887, summed up in a nut-shell, is not an encouraging report by any means. After uniting a few late swarms in October, I began the winter with 96 colonies, having had 76 colonies with which to commence the season's work. My sales of comb and extracted honey amounted to upwards of 1,700 pounds, about 1,500 pounds of which was produced during the last summer. The comb honey was disposed of at a good price. Extracted honey has had only a fair sale, but I am glad to say that the demand is increasing.

Rock Bluffs, Nebr.

QUEEN-REARING.

Methods for Rearing Good Queens.

Written for the American Bee Journal

BY S. A. SHUCK.

On page 297, concerning this subject Mr. J. E. Pond says: "Much that is written in regard to good queens is misleading to the beginner." Has not Mr. P. committed a greater error than those he endeavors to correct.

He also says: "I have further found that by the misnamed 'artificial method' of rearing queens, there is far less risk of producing from 10 to 13 day queens, than under the swarming fever." Here Mr. Pond conveys the idea that the production of 10-day queens under the swarming impulse is a common occurrence; also that 13-day queens are inferior.

If Mr. Pond has been troubled with 10-day queens under the swarming impulse, it is an exception that I have not met with in 12 years' experience with bees.

I am confident that the beginner, who secures his queens from his best colonies, under the swarming impulse, will not be wanting for good queens; and the results will be much more satisfactory than if he were to depend upon his own effort to secure them by the so-called "artificial method."

As I have no queens that are more than 13 days from the hatching of the egg, will Mr. Pond please tell why 13-day queens are not as good as any, provided that all other conditions are favorable?

How to Rear Good Queens.

To the beginner who would like to rear a few good queens for his own use, I offer the following method of securing them:

Select the best colony, and if there is little or no honey coming in from the flowers, feed this colony every evening, a little more than the bees will consume during the following 24 hours. Continue the feeding for a week, or until the colony is in a thrifty condition; then, on any afternoon remove the queen.

On the fourth day after removing the queen, open the hive and examine the combs carefully; if there are cells sealed, open them and examine the larva. Do not molest those not sealed. Replace the combs, and on the twelfth day from that on which the queen was removed, open the hive and cut out all the queen-cells but one, and put them where they are needed. Be sure to continue the feeding until the cells have been taken out. If you stop feeding, and there is no honey coming from the flowers, the bees are liable to destroy all the cells except two or three.

In the above way the queens will all be reared from eggs or larvæ less than 24 hours old, and the food from the cell from which the larvæ were removed can be given to the larvæ not yet sealed. This plan will produce good queens, and is much safer, and more economical for the beginner, than to purchase queens and take the risk of introducing them.

Liverpool, Ills.

FOUL BROOD.

Bee-Keeping and Curing Foul Brood in Germany.

Written for the American Bee Journal

BY WILLIAM KLINTWORTH.

My parents used to live about 18 miles from Bremen, Germany. They came to this country in 1836, and at that time there were many who kept bees there. They made their hives of straw in winter, as they were all made that way. Bees were generally fed in the spring, to get them strong, and to secure early swarms. The German bee-keepers would commence to feed by giving the bees a little once a week; as the season advanced, they would feed them once a day; and when spring opened, the bees could get pollen and nectar.

Great bee-keepers would move their bees three or four times during the season, where they could get the most honey. In the fall they would examine the hives, and those that weighed over 30 pounds were kept for the next season: for it took about that much honey to winter a colony. Those colonies that did not weigh so much, were killed, and the honey and wax were taken from them. The honey was pressed from the comb, part of which was saved for the next spring. If the bees needed more room, they would raise the hive up, and put an addition under it, so that the bees could build downward.

The greatest bee-man that lived there at that time, was Geo. Danker, who made bee-keeping his business. One year Mr. Danker had foul brood in his bee-yard. It was a serious matter with him, as he depended mainly upon his bees for a living. He obtained some sulphuric acid, mixed it with honey, and fed it to the diseased bees. He said, after he had fed it, that it was terrible to see the stuff lying under the hives; but his bees got well, and he obtained only 1,000 pounds of honey, where he should have had 2,500 or 3,000 pounds. Mr. Danker removed to this country about the time my parents came. He became a minister, and was well known in Ohio.

Mr. Wendelkin, a neighbor of mine, who lived in Germany, and at the same place, told me that in 1835 he fed his bees and was looking for swarms, for they had built queen-cells. But time passed, and they did not swarm. He did not know what to think of it, as he was a beginner in the business. He went to an old bee-man who lived there (a brother-in-law of Mr. Danker), and asked him to come and look at his bees—they had built queen-cells, but did not swarm. The man went with him, turned up a hive, and blew smoke down into it. "They are foul," he said. After an examination of the others, he pronounced them all diseased.

Mr. Wendelkin asked, "How can you tell?"

"O," said he, "I will show you."

He took a knife, and soon said, "You see those little holes there. Those are full of a mattery substance." Mr. Wendelkin asked, "Can I do anything to cure them?" "I have something that I will give you," was the reply. He then gave him sulphuric acid, which Mr. W. mixed with honey, fed it to the bees, and they got well, and swarmed late in the season.

Mr. Wendelkin came to this country about ten years after my parents arrived, and is now keeping bees in this neighborhood. Last spring he fed sulphuric acid to some of his bees. When he first commenced to feed it, he gave it so strong that they would not eat it; then he weakened it with sugar syrup. If it is mixed with honey it can be fed to bees stronger than when mixed in sugar syrup. Sulphuric acid is also used for curing chicken cholera.

Marietta, Ohio.

HIVING SWARMS.

Clipping of Queen's Wings, and Other Methods.

Written for the Bee-Keepers' Review

BY R. L. TAYLOR.

In preparation for the hiving of swarms when the time for their issuing comes, while making an examination of the several colonies in my apiary in the spring, I seek out each queen and clip one of her wings if one be not already clipped. I find it quite an advantage to do this before young bees begin to hatch largely, because then the bees are comparatively few, and the queen is generally easily discovered.

Then in anticipation of the advent of the swarming season, other preparations must be diligently attended to. Hives must be all ready for immediate use, and in a cool, shady place, as convenient as possible to the apiary. If the apiary be large, three or four baskets will be necessary, and a good supply of cages for the queens as they issue with swarms is indispensable. The cages I use differ from anything I have seen described, and may be made thus: Take a piece of soft wood $\frac{5}{8}$x1 inch, $4\frac{1}{4}$ inches long, and with a $\frac{3}{4}$ or $\frac{7}{8}$ bit bore a hole through it from side to side so near one end as to leave at that end $\frac{1}{2}$ inch of solid wood, and cut the stick carefully and squarely in two through the centre of the hole. Then enlarge the half circle in the larger piece by boring through it (the stick) one or two holes with a smaller bit, and smooth out with a knife. Also form a piece of wire cloth, 4 inches long, and about $3\frac{1}{2}$ inches wide, around a piece of wood $\frac{5}{8}$x1 inch, beat with a mallet, and weave smoothly together where the edges meet, then withdraw the wood, and having pushed into one end of the wire-cloth tube the shorter piece prepared as above, tack it firmly in place. Now push the longer piece into the other end of the tube for a stopper, and you have a cage always ready, convenient, safe and durable.

With these preparations all made I will suppose I am set to hive the swarms in a large apiary on a warm day in the height of the swarming season. Everything likely to be needed, including heavy wire hooks for suspending the baskets, a pair of large, white cotton sheets and a lighted smoker are at hand in the shade of a centrally located tree. It is 9 o'clock, and a hive near by spurting forth excited bees indicates that work has begun.

With a cage in my hand I step to the side of the hive and watch for the appearance of the queen in front. In one or two minutes she is seen climb-

the blades of grass, and trying to take wing. The open end of the cage, the stopper being withdrawn, is held immediately over her, when she at once enters and the cage is closed, placed in a basket, and the basket hung by its hook in a tree out of the sun, at a place where the swarm may find the queen. Take a new hive to the one sending out the swarm, removing the latter from its place and turning it around, put the new hive where the other stood, and change the section-cases from the old hive to the new. In the meantime the swarm has found the queen, and is soon clustered in the basket, when I pour the bees out upon the ground in front of the hive prepared for them, and when they fairly take up their march for their new home, I release the queen and see that she runs into the hive, because many of the bees will refuse to go in until she does. This is hardly done before another swarm issues. I cage the queen and arrange the hives as before, but the swarm, instead of finding the queen in the basket, begins to cluster at another place, so I at once remove the basket and hang it near that point, and the swarm at once takes possession of it. Before this one is fully hived, another swarm is in the air, and by the time I have caged its queen, it discovers her absence, and is already returning as I place their new hive in position. I hasten the return by placing the queen at the entrance, and as soon as the bees are rapidly alighting I release and run her in.

It is now 10 o'clock, and swarming has fairly begun. Two swarms now come out almost at the same moment, and unite in the air. I cage their queens, but notice that the swarms are attracted by the commotion at the hive into which the last swarm was put, and are already beginning to alight there. I push the queens into my pocket, snatch a sheet and the smoker, and spreading the former over the hive threatened with invasion, with a few puffs of smoke from the latter, I drive away the flying swarms, when they begin to cluster on a neighboring branch of an apple tree. I at once put each queen in a basket by herself, and hang the baskets together where the cluster is forming. Soon one basket has its share of the bees, and I steal it away and hang it out of sight in thick foliage, or set it in the bee-cellar.

Now other swarms come out—five in pretty quick succession—so I take the other basket with the swarm and hang it in plain sight on a branch favorable for holding a large cluster of bees, and convenient for shaking them off. Here, attracted by the swarm in the basket, all swarms will for the present congregate. I now proceed first to cage all the queens out, and all others as they come out and put them in baskets hung near the cluster, or out of the way in the shade until wanted. Then as I have time I arrange the hives, and hive swarms taken from the general cluster, giving each a queen until all the bees are distributed.

It would make a long story to recount all the expedients at times resorted to, to induce the bees to assist in making their hiving easy, but the foregoing indicates the general method pursued. Sometimes a swarm will cluster out of reach from the ground. In such cases, if practicable, a basket with the queen is hung under the cluster near the ground, and with a little shaking the cluster drops down, the queen is soon discovered, and the swarm gathers in the basket, or, if more convenient, a pole is used with a hook for the basket, say 20 inches from the upper end. The basket is raised with the pole and held under the cluster, while the latter is jarred off with the upper end of the pole.

With unclipped queens on a good day for swarms, I should be almost in despair. I have had but one queen superseded that I thought was superseded on account of clipping, and she had all four wings cut off short. My queens are not superseded soon enough to please me. I find too many that are approaching three years in age.

Lapeer, Mich.

HIVES AND NECTAR.

Winter Losses and Large Hives —Selling Nectar.

Written for the American Bee Journal

BY WILLIAM CAMM.

Out of 90 colonies my loss will be fully one-third. Looking for a better location last fall, I expected to move, or sell my bees, and would not break the brace-combs to look into them, preferring to let the winter weed them out, as we need a race of bees here that can stand drouth.

Most of the white clover was killed by the excessive dry weather of last year; our spring rains passed without getting much into the ground, as the frost was not out when they fell. The weather has continued dry, and though apple-trees are blooming profusely, the weather is too cool for bees to get much from them.

Many express impatience at the cool weather; but it is our only hope for rain. We have no moisture to send up to form the clouds that give us local rains, and summer showers; and should it turn warm, a calamity would result; for the heat radiated by the exposure of so much bare soil to an ardent sun, would force up to the condensing point and exhaust, and clouds that could otherwise reach us from a large body of water.

Hives to Suit Localities and Seasons.

Small hives may do for southwestern Michigan, where prevailing winds give rains from the lakes, but they will not not do here, unless we are able and willing to feed back more than the profits of our apiaries. My frame is 10x12 inches, outside measure. I have 60 hives with 10 frames and telescope caps, 5 Armstrong hives of the "Crown" pattern, and 25 hives with 13 and 14 frames, of my own make, but single-walled. All were treated alike, except the 25 of the colonies in 10-frame telescope hives had been used last season, with an upper story for extracting, and such colonies usually do not store as much in the brood-chamber as colonies used for producing comb honey.

All of my bees were exposed to the winter on the summer stands; but half of the colonies in the 10-frame hives are dead from starvation; 15 of those used for extracting having gone, although they had the advantage of double walls; only one in the 13 and 14 frame hives has died, though the walls were single, and no frames were taken out, or division-boards removed; while none in the Armstrong hives died.

I much prefer the 10-frame hive for convenience in handling, and with good seasons it will allow of as great a yield as a large hive; but since we cannot make the season to suit the hive, we must make the hive to suit the season.

Selling Nectar on Land.

On page 282, W. J. Willer suggests the selling of nectar land. Nectar is a natural product that cannot be gathered without the bee, and those who take the trouble to keep bees, should have the nectar for their pains. We must not forget, in this connection, that the bee was not made primarily, to gather honey, but to fertilize flowers; the gathering of honey is only incidental, and inducive to the fertilization of flowers. If, then, the bee-keeper should have to pay the land-owner for the nectar the bees gather, the land-owner should, in strict equity, pay the bee-keeper still more for the service performed by his bees.

But there is another phase to this question that must not be overlooked. We decided a hundred years ago that men were endowed by their Creator with an inalienable right to life, etc., but we have made a farce and mockery of this self-evident truth by prac-

tically denying men a natural right to the means of life, or to natural opportunities. We assert, in a national declaration, that the right to life is a natural right; but we legislate to make the means of life purchasable only. So far the right to gather nectar has been in accordance with our fundamental assertion of human right, but Mr. W. suggests a change, and that we carry the evil that is undermining our civilization, into practice, with regard to nectar as well as other bounties of nature.

A neighbor once asked me how much I was going to allow him for the honey that my bees had gathered off his pasture. My reply was that, if he would leave me enough for my family, he might take all the rest there was in my honey house—about 2 tons.

"What, for nothing?" he asked in surprise. "For nothing for the honey," I replied, "but I shall take 15 cents a pound for the trouble of gathering it. You would not ask me to 'work for nothing and board myself' would you?" That was the last I ever heard of honey being wanted by the land-owner; but that land-owner became a good customer.

When it is reasonable to ask a man to control the flight of his bees it will be time enough to talk about limiting his pasture for them, provided they are taking what would otherwise not be wasted.

Murrayville, Ills.

VENTILATION.

The Proper Way to Ventilate Hives.

Written for the American Bee Journal

BY L. W. LIGHTY.

Patent ventilations, or their venders, have deceived so many bee-keepers that ventilation is a subject not much spoken of. Bees are not such large consumers of oxygen, comparatively, as some other living beings. When in a state of quietude, they want very little air; but when they are at work, and the temperature is high, they will need much. The air for the bees should generally be supplied at the entrance, or from the bottom of the hive.

In this latitude it is most convenient and most profitable, to winter bees on the summer stands, packed with chaff or something similar. After placing the chaff cushion (which should not be less than 6 inches thick) on top of the frames or Hill's device, there should be an air-chamber between the cushion and the hive-cover of at least from 2 to 4 inches, and that air-chamber should be ventilated by two opposite holes from ½ inch to 1 inch in size. In that way the cushions will always be dry, and naturally warm and clean. If the hive does not have this top air-chamber and ventilation, the cushions will soon become damp, moldy and frosty, and then it would have been better to have had no cushions on at all.

Most chaff hives are provided with this air-chamber and the holes for ventilation. When using single hives, I generally use a second story or half-story for packing, but I do not like to bore holes in those, so I generally make a rim to fit the hive, about 3 inches high, and bore the holes in that. As soon as bees begin to rear brood on a large scale in the spring, they need much moisture and heat in the hive; therefore it is then best to cover them tight, and keep all the heat and moisture in. The entrance may also be contracted to suit the size of the colony.

In the summer, when the weather is very hot, top ventilation is good; but in our climate of sudden changes in temperature, the temperature in the hive frequently falls so low that the bees cannot work the wax in the sections, and that is a serious objection which should be avoided, and can be done only by closing the top ventilators; but as that is generally neglected, it is better to use only bottom ventilation and shade over the hive. If the bees are given a chance, they will ventilate the hive themselves in summer, but the entrance must be of the proper size for them to do it.

Mulberry, Pa.

WINTERING BEES.

In-Door vs. Out-Door Wintering of Bees.

Read at the Ohio State Convention

BY H. R. BOARDMAN.

There has always been a feeling of insecurity in bee-keeping as an occupation, on account of the uncertainty of wintering. This question settled, and some sure and reliable way of wintering, provided the business will be placed on a firm basis by the side of other industries.

The ground has all been gone over so many times, that it would seem useless to attempt to present anything new or interesting; and yet the wintering problem has not reached its solution. In-door and out-door wintering have their advocates, and both alike have their record of successes and failures. Out-door wintering is among my earliest, and, I may also say, my saddest experiences in bee-keeping. The most important factor in the wintering problem is climatic influence. There are others important that come within our control; but the influences of the weather we can at best only modify.

Cold does not kill the bees; but it comes in contact with the warmth produced by the living colony inside the hive, and condensation of moisture ensues. Moisture, combined with the cold, furnishes one of the most demoralizing and destructive conditions with which we have to contend in out-door wintering, both upon the bees and the stores. When a colony is so prepared that an excess of moisture accumulates within the hive, the stores (both honey and pollen) especially if unsealed, are contaminated by these conditions, and rendered unfit for the bees; and no amount of packing or protection against the cold will improve these conditions.

A large per cent. of the loss of colonies that have been specially prepared for out-door wintering is undobutedly the result of improper preparation. Colonies exposed to the severest cold, in climates much colder than ours, often winter in good condition without any protection whatever; even when subjected to the most reckless exposure in old, dilapidated hives, crumbling to pieces with age, and split and seamed from bottom to top, colonies have wintered year after year, for many years, while others, protected in the most careful manner, according to the most approved methods of modern bee-culture, have died.

We are perplexed and astonished at such results. The existing conditions were not those anticipated. The only conclusions are, that the favorable conditions in such exposed colonies that wintered well, over-balanced the unfavorable conditions; and, also, in such protected colonies that perished, there was a preponderance of unfavorable conditions, or, in other words, that such exposed colonies were in more favorable condition for wintering than the carefully protected colonies. This sounds strange, but is it not true?

I have often observed, that if the stores are of good quality, and remain in good condition, that the bees will also keep in good condition, and winter well, while if the stores are in bad condition, no amount of protection from the cold will avail in preserving the health and vitality of the colony. Even stores of inferior quality, if in good condition, are not necessarily fatal to the bees, if other conditions are favorable.

Mr. Hutchinson, in the AMERICAN BEE JOURNAL for 1887, page 650 says: "I have yet to lose a colony having cane-sugar stores, and wintered in a warm cellar, and by the method I now

employ." Does Mr. H. know that the same colonies would not have wintered well by any other reasonable method?

Mr. R. L. Taylor, at the Chicago convention, reported in the AMERICAN BEE JOURNAL for 1887, page 777, says: "I am confident that I can winter any fair colony well on stores, which are certainly good, by any of the approved methods." Who doubts his ability to do the same? Mr. Taylor also says: "I am satisfied that I cannot winter a colony well on stores that are decidedly poor in quality, by any method with which I am acquainted." Who can tell me how to do it? Stores may be so decidedly poor in quality that bees would not winter upon them by any method; but I have an abundance of evidence that stores decidedly poor in quality, if preserved in good condition, will not necessarily produce serious results, if aided by other favorable conditions.

I am aware that the results of in-door wintering are far from being uniform, and are very far from being satisfactory. Disastrous losses are not infrequent, even with apiarists of experience. Success depends as much upon the careful attention to details of preparation as does out-door wintering.

In-door wintering is my preferred method. It enables me, by my present methods, to secure all of the conditions favorable to wintering, both to the bees and the stores, with more certainty, and, at the same time, with less labor and expense, than the methods employed in out-door wintering.

In the construction of my first bee-house, I gave much attention to the ventilation. I had ventilating-tubes put in for the purpose. This was based upon theory. I have been compelled to change my views very much upon this subject.

My ventilators are now all taken out, being worse than useless, and I now employ no special means of ventilation whatever for my bee-rooms. But the most ample ventilation is given to each colony by leaving the bottom of the hives entirely open, and placing them upon stringers, one upon another, with an open space between, in such a manner that each hive is directly over the open space below. This gives what I term downward ventilation. It also affords an opportunity for all dead bees and rubbish to drop out of hive.

Of course, it would not be a matter of prudence to leave the bee-rooms closed throughout the season, disregarding all circumstances. I visit them on tours of inspection as often as I think occasion requires, and at the approach of warm weather I frequently leave the doors and windows open at evening and morning, in order to keep the temperature from getting too high.

There have been, during the past few years, some extravagant notions in regard to proper temperature of bee-houses and wintering repositories, and some immoderate reports and statements have been made that are well calculated to mislead even those of some experience. Some of the advocates of high temperature for wintering have gone to unwarranted extremes. I am myself convinced, by a liberal experience, that a high temperature is important to the welfare of the country, late in the season after brood-rearing has begun. But 50° to 55° I shall explain as the maximum, and 60° as the extreme of high temperature. It is well to avoid extremes of temperature, but I am not quite sure that uniformity is essential or even beneficial. I should prefer that the temperature go not below the freezing point, nor remain very long near it. But I have never been able to discover any very serious results from a low temperature, if not too long continued.

The use of artificial heat in bee-rooms in winter has attracted some attention. I have had considerable experience in its use, and at one time I became quite enthusiastic over it. But I do not attach as much importance to it as formerly. There are times during a long cold spell when it may be employed with benefit. I dispense with it in several of my apiaries entirely, and the comparative results in wintering show but little difference. I prefer to have the rooms perfectly dry, and sometimes I use lime on the floors to secure this condition.

East Townsend, Ohio.

SUNDRY ITEMS

About Bees and Bee-Keeping in New York.

Written for the American Bee Journal

BY JAMES EVANS.

The winter of 1886–87, with me, was disastrous. I had packed my bees carefully in chaff, although rather late, but the same as I had done previously, and I lost all but 2 colonies, and those were in poor condition. I then bought black bees in box-hives, and transferred them to frames of the Gallup size, and waited for results.

The spring opened fairly well, but bees barely held their own until nearly June 1, by which date strong colonies gave every indication of swarming; but at this time Alsike clover began to bloom, and I had about 2 acres near by. From that time for nearly four weeks swarming was entirely given up, and all the bees were entirely devoted to the Alsike. The 2 acres yielded about 100 pounds of surplus honey, besides what was used in the brood-chamber.

About July 1 Alsike and timothy was cut for hay, and better hay I never had. It was to most farmers a new thing here, but all were pleased, of the many who inspected it, and some has been sown, as a direct result. I vote for Alsike every time.

I produce only comb honey, and I have ready sale for all that I can spare, at 16 to 20 cents per pound. My yield per colony, spring count, was nearly 62 pounds per colony, mostly to be credited to the Alsike, without which I should have had much greater increase, as there was just yield enough to stimulate brood-rearing freely, but less surplus, for after July and sweet clover bloom we had very unfavorable weather—damp days and cool nights and mornings. Bees could not work freely, and they barely held their own for the remainder of the season, making it difficult to breed up nuclei and small colonies, so that many colonies went into winter weak in bees and with poor stores.

My strongest colonies I packed out-doors in chaff, the hives raised about 8 inches from the ground, over a box of leaves. The weaker colonies were put into a cellar where they could be looked after and fed when necessary, which I do by using partly-filled sections on top of the frames, covered by two thicknesses of carpet.

Fastening Foundation and Ripening Honey.

As to foundation, I use as little as possible in the sections—a **V**-shaped strip about 2 inches long by 1 inch wide at the base. I fasten it in the sections by using a stiff putty-knife, or a thin chisel, working where the sun can warm up both sections and foundation, with a little honey at hand to moisten the knife or chisel.

To start the bees in the section-case (I tier up), a few partly or wholly filled sections with comb, in the center of the case, is better than anything else that I know of.

To ripen honey, I leave it in the hives quite late, and by putting on 3 or more cases, bees soil the upper and finished ones but little, if any. To take off honey easily and rapidly, on a cool evening I take the cover off of the hive, and in the morning the filled cases will be mostly free from bees, and can, without smoke or disturbance, be removed bodily, and the hives covered again before the bees are flying, and thus avoid robbing. After taking it from the hives, I pile the filled cases 10 or 15 high, in a warm room, and cover them with cloths, when the few uncapped cells soon thicken so much that they will not break or leak.

Separators and Races of Bees.

In the beginning and at the close of the season, when honey comes in slowly, I think that separators are a necessity, to have the combs straight; but in a good honey-flow, I have no need of them; yet I cannot dispense with the small foundation starter or guide, to keep the combs straight in the sections. As to races of bees, the blacks are good, but disagreeable to work with; my best yield the past season was from a black colony—103 pounds of comb honey in sections. Carniolans have many good points, and I shall keep at least a few of them, if only to supply surplus combs in frames, partly built out and filled with brood for use at swarming time, and for making nuclei. Carniolans are good comb-builders, and wonderfully prolific breeders; and if the swarming impulse can be controlled, they are good honey-gatherers. In any case, for timid people they will prove valuable, being very gentle and easy to manage!

As for pure Italians, of a good strain, all things being considered, they are, in my estimation, *the bees*, and have come to *stay*. Too much cannot be said in their favor.

Hives for Producing Comb Honey.

As to hives, I will say that I have no Langstroth frames myself, but I am familiar with them and their workings, having occasion to handle them in neighboring apiaries. For comb honey in sections I do not like them—they have too much top area for the beginning and end of the season. It takes bees too long to get at work in the sections, and as soon as cool nights come, the bees too readily go down into the brood-nest for warmth. I like a hive with small top area, and a rather cramped brood-chamber. With me, the bees go up into the sections much more readily, and after once getting them at work, it is easy to keep them at it by tiering up. Besides, with a small section-case, honey is less liable to be mixed in the sections or case, as a good working colony frequently fills a small case in from 1 to 5 days in a good honey flow.

I have a simply-made hive in this way: The sides of ½ or ⅝ inch stuff; ends about 1 inch thick, and the cover simply a flat board, or boards thick or thin cleated with clinch-nails, and to prevent warping and melting of the combs, I put on top the same two thicknesses of rag carpet that I use over the frames for wintering, on top of which a stone or brick is put to prevent the wind blowing the carpet or cover off. It answers a nice purpose, and I cannot think of anything simpler or more convenient.

Making Section-Cases and Rearing Queens.

After trying many styles of section-cases, I am best pleased with T-tin ribs, either loose or fast, but I prefer them fast, and I have used them so for about four seasons. I also use propolis-shields or guards at the top and bottom of the sections, and they come out easily, and are neat and clean.

It will hardly pay the small bee-keeper to rear his queens, except for the knowledge he gains from the operation. I do, however, find it profitable, after my *best* and most valued colonies have sent out a prime swarm, to take from them all queen-cells but the *one* that is largest and best; the others I cage in a hatching-box, or frame, made by nailing screen-wire on one side of a regular frame, dividing the inside into small compartments, and on the back fastening with tack heads, strips of tin to slide in and out as covers. This I then hang in a strong colony, and as the queens hatch, if good and promising, they are used to replace others, to form nuclei, etc.

This is as far as I attempt to control or hinder swarming, and it almost universally prevents after-swarms, gives a supply of good young queens, and leaves both colonies in the best possible condition for profitable work.

The Chick-a-Dees Killing Bees.

When the bees flew freely, about Feb. 1, I for the first time discovered a new (to me) enemy of bees, viz., the chick-a-dees; perhaps 8 or 10 were constantly about and on the watch, and nearly every bee that alighted on the snow, and failed to rise, was, as soon as helpless, pounced upon, carried to a limb near by, and pecked upon at the back, the honey-sac extracted, and then dropped into the snow again. None, however, were taken until they became helpless and unable to rise!

Is this a new enemy, and will the habit be continued in the flying season? or have the birds been forced into it from starvation, caused by the long-continued cold weather and deep snow? Will some one having knowledge of the facts, please answer. As yet I have not that any, since the taking of the old and worn-out bees of course is not an actual loss.

Schaghticoke, N. Y.

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Your Full Address, plainly written is very essential in order to avoid mistakes.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Frank Leslie's Popular Monthly for June.—Summer Saunterings in Spanisb San Sebastian is a charming bit of descriptive from the pen of Mrs. Frank Leslie, one of the most notable women of the day, equally skillful in the management of a great business and in literary effort, in prose or verse. The description of the famous old frontier town, now becomes a resort of gayety and fashion, is full of characteristics touches. The stories are all bright, attractive, and well written, and the *Popular Monthly* for June gives a most attractive and interesting mass of reading for the pleasant days when travel or a shaded porch invite one to read.

Honey and Beeswax Market.

DETROIT.

HONEY.—Best white in one-pound sections, 15c. Extracted, 9@10c. Large supply and few sales.
BEESWAX.—23@24c.

Apr. 24. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 15@16c. for best one-lb. sections; other grades are slow, at lower prices. Extracted, 7@8c. Light demand, and supply larger than usual at this season of the year.
BEESWAX,—23c. R. A. BURNETT,

May 1. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c.

Mar. 19. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.

Mar. 13. S. T. FISH & CO., 189 S. Water St,

CINCINNATI.

HONEY.—We quote extracted at 4@9c. per lb., for which demand is good. Comb honey, 14@17c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Apr. 23. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.

Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.

Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs., 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.

Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.

Mar 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 6@7c. Market quiet.
BEESWAX.—18@21c.

Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.

Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Advertisements.

SPECIAL OFFER!

TO prevent increase, I will sell five lbs. of Italian Bees, with tested queen for $5.00.
Miss A. M. TAYLOR, Box 77,
21A1t Mulberry Grove, Bond Co., Ill.

FOR SALE.

35 **COLONIES** of Italian Bees in Langstroth hives made frost-proof. Apply to,
20A2t PETER DIXON, Saginaw, Mich.
Mention the American Bee Journal.

DON'T OVERLOOK THIS. I have quit bee-keeping, and offer 50 Heddon hives (Simplicity frame), 70 upper stories painted two coats white lead, used one season, Heddon Honey-Board, and everything complete for only $25; also one Foundation Mill (6 inches), new, $5.20; new Heddon Feeders (largest size), 25 cents each, and a sample hive complete, 50 cents. Satisfaction guaranteed.
E. J. SCOFIELD,
21A1t HANOVER, Rock Co., Wis.

The Bee-Keepers' Review

FOR MAY is now out. Having regained the time lost during his illness, the editor will hereafter take pride in getting out the REVIEW promptly on the 10th of each month.

The special topic of the present Number is "Hiving Bees." The review of Mr. Cheshire's work, which was begun in the March No., is finished in the present issue. We have a surplus of the Numbers containing this review, and, so long as they last, these three Numbers will be sent free to all who apply.

☞ Price of the REVIEW, **50 cts.** a year.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, **W. Z. HUTCHINSON,**
20Atf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

OUR ILLUSTRATED

CATALOGUE FOR 1888

WILL be mailed free to any one who is not already supplied with it. Send us your address, *plainly written*, on a Postal Card.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St., - CHICAGO, ILLS.

READY TO SHIP.

24 **ITALIAN QUEENS,** all reared from imported mothers in swarming season. One, untested, $1.00, 3 for $2.75. Two-frame nucleus with 2 lbs. of bees and untested queen for $4.00. Price list free.
J. N. COLWICK,
21A3t Norse, Bosque Co., Texas.
Mention the American Bee Journal.

WANTED,

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., - CHICAGO, ILLS.

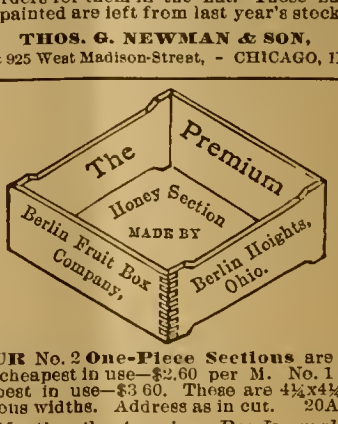
Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

THE NEW HEDDON HIVE

NAILED AND PAINTED.

WE have a **FEW** of the above hives, all complete, for sale, at $4.00 each. As we do not handle these hives this year, we cannot fill orders for them in the flat. Those nailed and painted are left from last year's stock.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.



OUR No. 2 **One-Piece Sections** are the cheapest in use—$2.60 per M. No. 1 are the best in use—$3 60. These are 4¼x4¼, of various widths. Address as in cut. 20A4t
Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. May 30, 1888. No. 22.

EDITORIAL BUZZINGS.

Ever Learning and exploring the fields of thought, speculation and invention—still the best apiarists have yet much to learn about bee-keeping, and the manipulation of bees, and the marketing of the honey product. Much yet remains to be learned, much to unlearn, and still more to be developed from that which has not yet evolved from the human brain.

Mailing Queen-Bees to Canada.—Last week we published a letter from the Superintendent of Foreign Mails, anuouncing that though queen-bees could not now be mailed to Canada, that a modification of the treaty was expected so as to admit them. Dr. S. W. Morrison, of Oxford, Pa., wrote to us on the 24th inst., the following concerning the matter :

I am requested to address a cage with bees to the Superintendent of Foreign Mails for transmission to the Canadian authorities for examination. Permission to send queens by mail to Canada will be surely arranged for within the next week.

Holy Land Bees.—A correspondent writes the following queries for answer in the AMERICAN BEE JOURNAL :

What do you know about "Holy Land bees ?" Are they better than the Italians ? If so, I want queens. Who rears them for sale ? I see none advertised, and why not ?

The Holy Land bees are good workers, and are favorites with many bee-keepers. If our memory serves us right, we have advertised them for some breeders. They ought to know enough about business to "keep these matters before the people," especially at the proper season for selling queens. The AMERICAN BEE JOURNAL is unsurpassed as an advertising medium, and offers advantages possessed by no others.

Cremation.—Mr. L. C. Wemple, of Rogers' Park, Ills., is now traveling in California, and has sent us the following cut from the Los Angeles, Calif., *Tribune* of April 22, 1888. It seems that Mr. Hinde, who was very far *behind* the spirit of the times, has cremated 500 colonies of bees, sacrificed them to ignorance and superstition. The *Tribune* says :

Mr. Hinde, of Anaheim, who burned up 500 colonies of bees, possessed by himself, because the alleged busy little workers had been engaged in pillaging his neighbor's orchards and vineyards, must be a man made of the same stern stuff as that which went to the mental and physical composition of our Pilgrim fathers. He is honest, certainly, to a fault—for he destroys his own property to save the property of others—but after all I cannot find it in me to commend his act.

He did not think of the bees, you see, who were to suffer a fiery martyrdom for obeying their natural instincts ; and yet the bees had rights. They had the right to live out their little span of life, to gather sweets, and to alight upon the flowers, and to flash their wings in baths of sunshine.

Mr. Hinde's bees were probably not consenting parties to their burning, either, and if they had not been so blinded by smoke as to forget all about their possession of a business end, I have no doubt that they would have endeavored to bring the gentleman to a realizing sense of that fact. But it is very doubtful whether they would have been successful even under the most favorable circumstances.

A man of his stony heart and adamantine conscience must be the possessor of an epidermis totally impervious to so small a thing as the sting of a bee. And if he was not, a thousand stings would not turn him from what he conceived to be his duty.

Superstition has brought untold woe upon the world, and men of Mr. Hinde's stamp have long been a curse to the world. He is a slave to an erroneous idea. The bees were busily engaged in fertilizing the flowers, increasing the fruit, and proving a blessing to the orchard and its owner, and yet in his blindness, the owner of the bees cremated them, and thus repaid them for their generous labors by instaut death.

This is the same piece of superstitious stupidity as that of the bee-keeper who closed the entrances to his bee-hives on Saturday night to prevent them from working on Sunday ! Such ignorance is inexcusable in the full blaze of the light of the closing years of the nineteenth century ! The fiat of the Almighty is : "Let there be light," and it behooves men and women of the present day to help scatter the light, and banish darkness and superstition from the earth.

Two-Ounce Sections.—We have received a frame contalning 20 "two-ounce" sections for honey (that is to hold two-ounces of honey when filled) from Mr. W. Harmer, of Manistee, Mich. The frame came safely by mail, with pieces of foundation in each, and when put on our desk, attracted considerable attention for several days. It now occuples a place in our Museum. These two-ounce honey sections were fully described on page 292. If they can popularize honey by putting it up in 5-cent packages, all will bid them welcome.

That Trembling Disease.—Salt as a cure for the trembling disease in bees has been recommended by several in these columns, and now comes Mr. C. H. Dibbern with the result of a trial in his apiary. He remarks, under date of Milan, Ills., May 23, 1888, as follows :

It seems that some bee-keepers are seriously troubled with what is usually called the trembling disease. I had a colony last fall that was badly affected, and had dwindled away to a mere quart. I had heard salt recommended, and I gave them a sprinkling with salt water on top of the frames, but had little faith in it. The disease has, however, entirely disappeared, and the colony is strong again and hard at work.

A Riddle.—S. M. Keeler, of Chenango Bridge, N. Y., propounds this riddle for explanation :

Concerning the Chapman honey plant, I read in the AMERICAN BEE JOURNAL, page 308, the committee appointed at the Detroit Convention, report that the seed may be scattered in waste places ; that it seems to root out all other vegetation and take possession, etc., to commence with, and then closes with this remark : "It does not spread in seeding." Can you, Mr. Editor, solve this riddle ?

Oh ! "riddle me, riddle me right"—that is *easy to solve !*

That committee was well-"rooted." In fact it consisted of *two Roots* (L. C. Root and A. I. Root), and N. W. McLain. They commenced at "the root of the matter," and at first stated that it was "characteristic" of the plant to "*root*" out all other vegetation, and take possession of the soil. That is done by the *roots*—not the seed ! !

Now at the end of the report they speak of the *seed*, and declare that "as it does not spread in seeding," that the winds do not carry the seed, because it is not provided with baloons for that purpose, and therefore it is not like the Canada thistle, "a pest or noxious weed," and its extirpation is therefore easily accomplished ! !

When the "roots" and the "seed" are kept separate, the "riddle" vanishes out of sight ! !

The Votes on the location of the next meeting of the North American Bee-Keepers' Society are coming in. Dr. Mason reports that 62 of the 81 votes so far received from the members, are all but one (which is not against it) in favor of the change to Columbus. We felt sure that there was no question but that the vote would show that the members desired the change, under the circumstances.

Now, it should be borne in mind that, as this is a migratory convention, it is not best to decide upon a location a year in advance. It should adjourn subject to the call of the executive committee, who, during the intrim, can canvas the claims of the different localities and decide upon the best, all things considered. This would save trouble and annoyance, and would often be of great advantage to the Society, and save members much of the cost of railway transportation. This matter should be thought of when an adjournment is taken at the next meeting.

GLEANS OF NEWS.

Still they Come.—M. W. Shepherd, of Rochester, O., writes us as follows :

I enclose a clipping from the Family (Monthly) *Visitor*, published in Camden, N. J., for February, 1888, showing how the bogus honey business is carried on——— somewhere! Here it is :

The industrious bee will have to be more industrious than ever, now that artificial honey is being made. The comb is manufactured from a white wax, placed in a jar and the syrup poured over it. It is not a very good imitation, and can easily be detected, but it is much cheaper than the real article. Will the dealers raise its price and pass it off as genuine honey ?

Some are determined to push these assertions—and to accommodate them, an inventor is now trying to make comb with cells half an inch deep or more. We have seen some of it, but so far no one has attempted to fill it with honey and seal it over, *a la* Wiley. The same writer adds this :

Also inclosed you will find an article clipped from the *Orchard and Garden*, published in Little Silver, N. J., which I think will answer the person who said the bees had destroyed the grape industry of northern Ohio, the particulars of which were given in the AMERICAN BEE JOURNAL, page 84. The counties mentioned are two of the smallest engaged in grape culture, and if the bees have destroyed the same, what must it have been before the little sinners got in their work. Some people will lie for fun (Wiley for instance), and others will lie because they do not know any better, and between the funny man and the fool the poor little bee will have a hard time of it.

The article in question is written by Geo. H. High, of Ottawa county, O., and in it he completely refutes the lying assertions of the Atlantic, Iowa, *Messenger* (viz., that "the grape-raising industry has been almost entirely killed in Ohio" by the bees). He says :

We have had but few entire failures with the Catawbas here for 17 years. My own vineyard has averaged for that time 3,872 pounds to the acre. No vine responds so quickly to good treatment. More than 60 per cent. of the six or eight thousand acres in this and Erie counties are Catawbas. More than 12,000 vines will be planted in this vicinity this spring.

The *Messenger*, it will be remembered, advised grape-growers to poison bees in their localities, and as an excuse for doing so, *lied* about the industry in Ohio—proofs of the falsehood is presented above from an extensive grape-grower himself !

Bees are Swarming.—That is the general tune now. The following is a sample of many of the letters now coming in, and is from J. H. Loudon, of Bloomington, Ind., and dated May 21, 1888 :

Bees are just booming. I had a very large swarm yesterday, if it was Sunday, and today I had three more. The hives are running over with bees, the result of keeping them in chaff hives, with a cushion on top, where they keep warm during cold spring nights.

WELCOME APIARY.

The engraving represents "Welcome Apiary" at Bedford, O., which was founded by Mr. J. B. Hains, who, when a mere lad, captured a fugitive swarm of bees which were seeking to assert their independence, while their fellow-citizens on a higher plane of creation were, with perhaps less order and more ardor, with fife and drum and waving banner at the head of their column, parading the streets of their little village, celebrating the 67th anniversary of our National Independence.

The line of march taken by the patriotic citizens and that of the absconding swarm being at right angles, crossed each other, the bees passing over the squad of barefooted boys who were following in the rear of their elders.

The sweet music of the bees contrasted with the discordant notes of the amateur martial band, and aided perhaps by the visions of sweetness rising before his imagination, caused the boy Hains to give chase to the bees which soon clustered, perhaps having been thrown into disorder by the noise which the boys thought to be the finest of music.

He then procured a dry-goods box and dumped the bees into it. For a few years boxes and salt barrels furnished shelter for their decendents, presenting a motly row, until the invention of the Rev. L. L. Langstroth, which was destined to revolutionize bee-keeping, was brought to his notice, and changed his methods. Although he constructed a house-apiary or bee-house, at quite a considerable expense, he does not recommend it for practical purposes, but very much prefers chaff hives.

This view was taken from the west half of the apiary, which is not shown in this engraving, as it is across the railroad tracks that are seen in the rear of the house.

The name of the apiary was suggested by the fact that visitors to the apiary were always made *welcome*, and being only 12 miles from Cleveland, on the lines of the Cleveland & Pittsburgh, and Cleveland & Canton Railroads, a large number favor Welcome Apiary with a visit every year.

Funny.—An item is going the rounds of the American papers about the honey product of France, which reads thus :

At Bordeaux, a bee-keeper obtained 1,965 kilos (3,930 pounds) of honey in one season from 71 colonies. He uses the movable frame. At Claixan, in the Pyranaes, there is an apiary of 100 colonies that yields an annual revenue of about 350 francs, but the bees are smothered every fall.

In 1874, the honey and wax product in France was worth 25,000,000 francs ; in 1875 the product was 10,000,000 kilos. of honey, and 25,000,000 kilos. of wax. On Dec. 31, 1885, 1,731,604 colonies of bees were in France.

What an enormous honey crop that bee-keeper of Bordeaux had ! A little over 50 pounds per colony ! ! Had it been ten times that amount there might have been something to crow over ! What would he think of our Texan's report of 1,200 lbs. from a colony, or a similar amount from 3 or 4 colonies that in Bordeaux it took 71 colonies to gather !

At Claixan it is even a worse report. That honey from a hundred colonies was gathered and deposited in large brood-frames—instead of in the small American sections holding a single pound of delicious honey deposited in virgin combs !

The fact is that France is away behind the times in apiculture—away behind almost every other country in Europe in bee-manipulation and honey production.

Honey Transformation.—Mr. D. Stoler, of Saxton, Pa., sends us the following for explanation. It is taken from the Grocers' and Canners' *Gazette*. Please notice that the last word in the second line stamps the article as *pure* honey. All the transformation that occurred was the ordinary granulation consequent upon its being exposed to the air after a part of it had been eaten. The article reads thus :

Some weeks since it was our fortune to come into possession of a pound-box of pure honey, with which we had an experience such as to warrant reference to it here. For several days we ate the honey with our lunch until there remained but a thin layer on the bottom about ¼ to ½ of an inch in thickness. This we left untouched in the drawer of our desk for some two weeks, when, upon examining, we found a peculiar transformation had taken place. All semblance of the honey structure had disappeared, and in place thereof we discovered a white substance that closely resembled in appearance the crust upon cooled lard, beneath which was a white semi-fluid of about the consistency of condensed milk. It was sweet and palatable, yet no one would judge that it could have been honey. To make inquiries relative to the matter, we called upon a firm which handles a large part of the honey that comes to this market, and from them received a courteous explanation of the phenomenon. Said the one interviewed : "It was what we call 'winter-fed' honey; that is, during the months of winter the bees were fed by a mixture of honey, much sugar and something else the nature of which is kept a secret. From this artificial feed the bees made the honey of which you speak, and which, in its nature, is that of a natural, artificial product.

The explanation given by the honey-dealers simply show their ignorance and stupidity. They ought to have known that bees never *make* honey! They gather it from the flowers, but *never make it.* In order to cover up their ignorance, they invented the silly story of "winter-fed honey," a mixture of sugar and a mysterious "something else!" These fellows had not the ordinary intelligence, or even cheek of the villifier of honey, or they would have said that it was glucose. They simply made an exhibition of their ignorance by saying that it was a "mixture of honey, much sugar, and something else, the nature of which is kept a secret." Bah! Such bare-faced lying is deplorable!

Late Spring.—Thos. Stokes, Minesing, Ont., on May 18, 1888, writes :

We are having a cold, windy, late spring. The growth is very slow. The native red plums are not open yet. It snowed enough to make the ground white on May 15, when the mercury went down to 30°. Bees have only gathered honey one day, from golden willow, and not many days were fit for pollen. They are breeding fairly well ; those having a good supply of stores have come out strongly. Fully 50 per cent. of the bees in this locality have been lost in the past winter and spring. The honey harvest will be late this year; the sward of clover is splendid.

Bees are now making up for lost time. The wet and cold weather of the past 3 or 4 weeks has passed away, and beautiful sunny weather has come—we hope to stay.

INTERROGATORIES.

Drones Flying Early—Mailing Queens.—Ira N. Lyman, St. Peter, Nebr., on May 19, 1888, writes :

I had only 3 colonies of hybrid-Italian bees wintered in a cellar, and all came out strong, save one that lost its queen, but reared another. Drones were flying from all my hives on April 15. I think that it is the earliest that I ever have seen drones flying in this country from *all* the hives. The spring has been very backward, there being only an occasional day when bees can fly ; but they are all doing first-rate, considering the time they have had to fly. Some in this neighborhood have lost a part of their colonies, from being short of food, I think, and bad weather. They were all wintered out-doors. I like wintering bees in a dry cellar the best. The bees have an abundance to work on now, if only the weather was good. Plum blossoms, gooseberries and other plants are in bloom now. Please answer the following :

1. Can an Italian queen be sent by mail safely, and be three days on the way to its destination ? 2. If a queen should die on the way, would the sender be likely to send another, or would it not be reasonable to expect one ? 3. Would candied honey be sufficient feed to put into the cage to send a queen on a long trip by mail, say three days ? 4. Please give a good description of the Albino bees ? 5. Where can I get thorough-bred queens and bees, described as thorough-breds, and what is their cost ?

1. Yes ; it may be in transit for three days or thirty, if sufficiently protected and provisioned.

2. Yes ; have the post-master certify to its being received dead, and send it back to the breeder, cage and all, just as it was received, and he will send another. That is what "Safe arrival guaranteed" means.

3. No ; do not use candied honey, but make "candy" of sugar and honey, so that it may not soil the mails in transit.

4. Albino bees have white bands.

5. Consult the advertising columns of this paper.

Uniting Colonies, etc.—Henry H. Arnold, Ionia, Mich., on May 15, 1888, writes:

I have 5 colonies of bees in good condition, wintered on the summer stands. I lost 2 small colonies in the cellar, but it became too cold for them. I obtained no surplus honey from my bees last year.

Please answer the following : 1. How do you unite bees or double up colonies ? When is the best time to do it ? 2. Can we take frames of bees and brood from different hives and place them together, and not have them fight ?

1. The best time to unite, weak colonies is upon the eve of the honey harvest. Sprinkle both colonies with sweetened water scented with the essence of peppermint ; smoke well, and put them all together in one hive. If you do not wish to select the poorest queen and kill it, leave that matter to the bees to settle. Feed any colony that is short of stores, or unite it with one that has plenty.

2. If they show any signs of fighting, smoke them thoroughly, and that will probably take the "fight" out of them.

Did they Hibernate?—Mr. Malone, Newbern, Iowa, asks for information about a damaged colony of bees which lived in a clamp when all the others died :

In the falt of 1885, on Oct. 15, and when the mercury was at 60° at sundown, I put 10 late colonies of bees into a clamp, each of which did not have to exceed 4 pounds of honey. When putting the last one in, the little boy let his end of the hive drop ; but I got them in, and after they were covered 12 inches deep, I could hear them roaring. On March 1, 1886, I took them out, and all were dead except the one before mentioned, and if it had eaten any honey, I could not detect it.

We may speculate as much as we like, but there are many questions that no one can answer ; and it is among the latter to ascertain why the poor damaged colony lived when the others not damaged died ; and as to what these bees lived on, we may guess, but could not determine with certainty. They may have gotten some honey from the other hives where the bees had died.

Queenless Colonies — Uniting, etc..—J. W. Smith, Moscow, Vt., on May 21, 1888, writes thus :

I had 6 colonies of bees which came out queenless this spring. I had no queens to give them. I asked an old bee-man what I had better do with them, and he said he would advise me to give them to weak colonies that had queens. I did so, smoking them several times, and in a week's time I had lost my 6 colonies, and the ones I gave them to are weaker to-day than they were in the first place. The combs I have taken out of the hives and put them away for future use. I have fumigated them with sulphur. Will that be objectionable to the bees if hived on those combs in swarming time ?

If you had no extra queens, and could not get them, the best thing to do was to unite them with weak colonies. Combs fumigated with sulphur will not be objectionable to the bees.

Death of Dr. Judson.—From Mr. John C. Swaner, Salt Lake City, Utah, we have the intelligence that the most noted bee-keeper in Utah, has just passed over to the "silent majority," and Mr. Swaner remarks as follows concerning him :

Dr. Benjaman Judson died on May 14, 1888. He was interested in bees in England when he was a mere boy, and was, you may say, the first man in Utah who understood the management of bees. He owned, at the time of his death, about 100 colonies. His age was 59. His death resulted from inflamation, caused by hernia—the painful strangulated kind.

They all Say the Same.—Messrs. Charles Dadant & Son, of Hamilton, Ills., who advertise all the time in all the bee-papers, desires to record their experience in these words :

We will say the same as Mr. Hutchinson. Since you asked your readers to say where they saw our advertisement, we get more mentions of the AMERICAN BEE JOURNAL than of any other paper.

QUERIES & REPLIES.

Hiving Two Swarms that Issued at Once.

Written for the American Bee Journal

Query 546.—I clip the wings of all my queens, and at swarming time I catch the queen as she comes out with the swarm, and cage her; then I wait for the bees to return. Sometimes they will cluster before returning, and at other times they will not. I have about 30 colonies this year, and I expect that sometimes more than one swarm will issue at once. 1. If two or more swarms issue at once, will they, when returning, separate and go to their different hives, or will they all go to one hive? 2. If they all go to one hive, how shall I separate them, so that each queen can have her bees?—S. P.

1. Each swarm will go to its own hive.—MRS. L. HARRISON.

1. Each swarm will return to its own hive.—G. L. TINKER.

1. Sometimes all will go into one hive, but usually they separate for me. Simply take the frames and shake the bees in front of another hive.—A. J. COOK.

1. They will often unite. 2. You cannot do it. But you can give a share of the mixed bees to each queen. —C. C. MILLER.

1. If they are all queenless, they will nearly all go back to their own hive; but it would take a half page to direct you how to separate them if they all go to the same hive.—DADANT & SON.

1. Generally they will. 2. Shake a part of the bees in front of the hive that is deficient. But cage both queens for a day or two. They will stay where they are put.—M. MAHIN.

1. Sometimes they will, and sometimes they will not. 2. I do not know, and I should not care to be that particular. If they are *made* to fly before they are ready to break up the cluster, and the hives they come from are some distance apart, they will generally return to their own hives.—A. B. MASON.

1. If two or more swarms issue without queens, and unite, they will return to the parent hives; at least I have found sunch to be the case in my own experience.—J. E. POND.

1. They will go to one hive if they are close together; but if some distance apart, they often separate. 2. Divide them as soon as possible, giving to each queen the same amount of bees.—H. D. CUTTING.

This is the only objection that I have to queens with clipped wings. When they mix up it is a difficult matter to have each queen have her bees; but if you shake the bees near the one that has the less bees, part of them will go back into the proper hive.—P. L. VIALLON.

1. As a rule they will return to the parent colony, though often they will become badly mixed, and unevenly divided. 2. In this case, I would prepare as many hives as I had queens, cage the queens, and divide the brood and bees as evenly as possible.—J. M. HAMBAUGH.

1. They will usually return to their respective hives. 2. You will have to divide them as nearly as you can, and then keep each colony confined in a dark room for 24 or 48 hours; otherwise your operation will likely be a failure. Supply food if they have no stores.—J. P. H. BROWN.

1. Usually they will not return to their own hives in perfect order. 2. Such questions are certainly inappropriate for this department. I know this by the number of words required to answer, and the size of the answer sheet provided.—JAMES HEDDON.

1. I think that they generally return to the hive from which they issued. I. Divide the swarm, giving part of the bees to the other colony. I do not believe that it makes any difference at such a time, whether the bees are returned to the mother queen or not.—EUGENE SECOR.

1. They will almost surely all go together. That is the main objection that I find to clipping queens' wings. It is all right as long as *all queens'* wings are clipped; but when the second swarms come out, is when the fun begins. 2. The only way is to put the bees into two hives, and see that each gets a queen.—C. H. DIBBERN.

1. They will probably all return to one hive. 2. Divide the bees with a tin dipper, while they are clustered on the hive to which they have returned. It will only take a minute to dip them off into a basket and carry them where wanted. If they are uneasy and inclined to fly, sprinkle them with water. —J. M. SHUCK.

1. They will generally separate and return to their own homes, but they sometimes make a great muss of it. 2. You can divide the united swarm, and give to each, one of the queens; but it is the safest way to leave the queens caged for 24 hours, as the mixed swarms will often "ball" the queen.—G. W. DEMAREE.

1. If the swarms unite in the air, they will cluster together or return to one hive. 2. If the swarms unite, you cannot give each queen her own bees, but you can give each, half of the united swarms, which is just as well. If swarms cluster together, place each queen in a separate basket and shake into each basket the proper share of the bees. If they offer to return to one hive when that hive has its share of the bees, quickly remove it, substitue the other hive, and attract the rest of the bees to it by placing the queen at the entrance. But circumstances and experience must often dictate the course to be pursued.—R. L. TAYLOR.

1. Frequently, both ways; but with a sheet to spread over the hive that is getting the most bees, I have no trouble in getting them divided in each hive about as I desired. 2. You must not let them all go to one hive, but should they get the start of you and do so, keep the queens caged, and after they get settled, dip them up as you would wheat till you get them as you desire them.—G. M. DOOLITTLE.

They may separate and return them to their respective hives, but quite often they will go to one of the hives. If they all go together, give the surplus bees to weaker colonies, carefully caging the queen before doing so.—THE EDITOR.

The Tiering-Up Method with Gallup Frames.

Written for the American Bee Journal

Query 547.—1. Is the tiering-up method, in working for comb honey, as well adapted to so deep a frame as the Gallup, as it is to a shallower frame? 2. Or would better results be obtained with this frame by practicing storing at the sides of the brood-nest, in conjunction with only one tier deep on top? 3. Is the Gallup frame, at the present time, used by many successful apiarists?—New York.

1. I think that it is. 3. I cannot answer.—J. P. H. BROWN.

1. No. 2. No. 3. Not by many—only by a few.—DADANT & SON.

1. Yes. 2. I do not like side-storage. 3. Yes, by many.—H.D.CUTTING.

1. Yes. 2. No. 3. I do not know. My frames are nearly the size and shape of the Gallup.—M. MAHIN.

1. I like the tiering-up method, and I use it in preference to any other. 3. It is used by some of the best.—EUGENE SECOR.

1. Hardly. 2. Side-storing, in conjunction with one tier on top would, I think, be best. 3. I cannot say.—MRS. L. HARRISON.

1. No. 2. Yes. If you can keep the queen out. 3. As to this, I am not posted.—J. M. HAMBAUGH.

The shallow hive is preferable. I would not bother with side-storing, but I would tier up even on a deep-frame hive. 3. Yes.—C. H. DIBBERN.

1. I find no difference. 2. I have not found it so. 3. Yes, by many; but I think not as many, by far, as use the Langstroth frame.—A. J. COOK.

1. Those that use the deep frames think so. 2. Mr. Videto, of North East, Pa., the only one that I know

personally, who practices that method, and who keeps 150 or more colonies, thinks so, and makes a success of it. 3. Yes, quite a number.—A. B. MASON.

1. In an exclusive top-storing hive, a shallower frame is preferable. 2. Many make side-storing a success. 3. Yes.—G. L. TINKER.

Mr. G. M. Doolittle uses the Gallup frames, and he is one of the most successful comb honey producers that we have. He will, no doubt, answer this query, having full experience with such a frame.—P. L. VIALLON.

1. Yes; that is to say, tiering-up for the Gallup frame is to tiering-up for the shallower frame, as the Gallup frames for comb honey is to the shallower frame for comb honey. 2. No. 3. Not by many, so far as I know.—R. L. TAYLOR.

1. I judge so. 2. I should say that side-storing was a bad thing, if it were not that Mr. Doolittle practices it. But then you should tier up in either case. —C. C. MILLER.

1. It is the best method over any depth of brood-frames. 2. No, no; do not waste any time in drudging through the side-storing fallacy. 3. No.—JAMES HEDDON.

1. I think that it is better adapted to a shallower frame. 2. I do not think that any gain can be made by side-storing. 3. Not to any great extent. I will say, however, that I speak only from the stand-point of my own locality.—J. E. POND.

1. It is not so well adapted. 2. I have some bees on frames 12 inches deep, but I have after many experiments abandoned side-storing for the "tiering-up" method. 3. I know of some of the best apiarists and honey producers who use the Gallup frame, but not many.—J. M. SHUCK.

1. I think not; but the difference is not so very great, as some think it is. The disadvantage is mostly in the comparatively small surface over the deep frames. 2. "Side-storing" is entirely too much fuss, to be adopted by practical apiarists. 3. Not by *many*. A few good bee-keepers still use the little bee-gumish looking Gallup hive. There is a great deal in *use*.—G. W. DEMAREE.

1. Probably not quite, yet there are good points enough about this frame to more than make up for this lack. 2. Better results can be secured with any frame if worked on this plan, and especially is this true of the Gallup frame. 3. Ask Prof. Cook. There are very successful apiarists who use frames of widely different patterns, but the frame most in use in this country, is the Langstroth. However, the size of this has not been kept strictly pure, for there are about as many of A. I. Root's modification in the country, as there is of the "standard."—G. M. DOOLITTLE.

Tiering up is the most desirable method, and for that the shallower frames are more desirable. Side-storing, it is generally admitted, requires more labor and attention, though many successful apiarists practice it regularly. The Langstroth frame is generally used, and only a very few use Gallup-frame hives.—THE EDITOR.

MAY FLOWERS.

May shall make the world anew
Golden sun and silver dew—
Money minted in the sky—
Shall the earth's new garments buy.

May shall make the orchard bloom;
And the blossoms' fine perfume
Shall set all the honey-bees
Murmuring among the trees.

May shall make the bud appear
Like a jewel, crystal clear,
'Mid the leaves upon the limb,
Where the robbin lifts his hymn.

May shall make the wild flowers tell
Where the shining snowflakes fell;
Just as though each snowflake's heart,
By some secret, magic art,

Were transmuted to a flower
In the sunlight and the shower.
Is there such another, pray,
Wonder-making month as May?

—*St. Nicholas.*

CORRESPONDENCE.

EVOLUTION.

The History of Evolution in Bee-Culture.

Read at the Progressive Bee-Keepers' Convention

BY GEORGE B. HAGGART.

Science and centuries change. The authority of to-day is but the foundation of discord in another age. The development in any branch is not however lost, the principles serving as retainers until mind-showing defects points out the inmost principles and searches the utmost depths. Grand, may be christened that subject and that science which meets approval so instantly that the adverse and conflicting mind may grasp the true theory, and reconcile all opposition.

Development was made in apiculture in early times, but conjecture had taken the place of fact in leading details, until 1712, when the mathematician of Nice, Maraldi, invented the glass hive, enabling naturalists to study more closely the in-door life of the bees. Then we find Reaumur, Schirach and Huber leading on the science, and later our noted and highly-honored Langstroth's toil has gained the principles we utilize to-day. In this, as in all other attempts, there is no unparalleled story of the might of these winged-foes when unting their forces against a common enemy.

They have had many a triumph since the day when Moses described how the Amorites, who dwelt in the mountains, came down and chased the Israelites "as the bees do."

Even the great Mohammedan emperor, when attempting to carry off the brazen bull from sacred Mt. Aboo, was attacked by "a legion of wild bees," which could not stand the invasion of their sacred home, and deseended in clouds from the mountain heights, put the whole army to flight in the place known to this day as the "Valley of the Bees."

Let us turn back through the ages. Let us turn over eighteen centuries—eighteen leaves. Where is apis mellifica? "And his food was locusts and wild honey."

Back another quarter of a century, and we hear those songs which so charmed the ears of the Roman warriors. Allandro Augustus sang to the shepherds and heathen gods who watched the fate of Rome. The words of Virgil, the king of Latin poets, even Publius Virgilius Maro. Three years he toiled, and the results were the "Eclogues." Seven years he toiled, and the results were the "Georgics." Eleven years more, and the "Aeneid" appeared. In the "Georgics" he first sings of Husbandry, then of Forestry, third of Cattle, and last of the Culture of Bees. And in the words of Cooper, "In 277 lines of the finest of heathen poetry."

One quarter of a century before the Christian era, the rude apiculture (rude as it must have been) is praised in the Latin tongue—in the noble language of ancient Rome. He proposes the subject, then shows the proper station for the hives, the management of the swarms, and later, the battle between two discordant "kings" of the hive, as it is literally translated, and as the were evidently called in those early times. He gives the diseases as they then understood them, and the remedies that should be applied, in case they raged among the bees. These are his opening words: "Next I will set forth the celestial gift of aerial sweet. Marcenas pray listen to this part of the Georgics. I will sing to you of the admirable spectacle of a little being, of their mighty leaders, of all their kinds in all stations. This is forsooth, a subject small, but the instruction is not low. First, a seat and stand should be sought for the bees, where the opening is not to the winds; for the winds pre-

vent that they should bear home their sweet, nor to the flocks for the frisky lambs break down the flowers, and the heifer straying in the even field will shake off the dew and crush the rising herbs. And it should be away from the spotted lizard and brown toad, from the woodpecker and its home, from the bee-eater and other birds. It should be away from the reach of the cruel swallow, with red feathers at its breast. For all these devastate widely, and each wishes to bear the bees away as a sweet morsel for their merciless young. But some liquid font should be near, some slow running pool surrounded with moss, and near some small stream flowing through the grass. Their court should be shadowed by palms, or by some Olive tree; so that when the kings lead forth the first new swarms, in the spring-time, the younger bees, just appearing from their combs, may play, and the near bank will encourage them to descend from the heat of summer, and cling to the trees, opposite their former home."

These are but 25 lines, and thus the noble poet goes on, in, I think, the grandest description to be found in Latin literature. The bee even as the beast of burden seems to have followed man, both civilized and barbarous, and as Ripley and Dana say, "To have been cultivated from antiquity."

But why indeed should not development be made in the culture of an insect? Why not as much development as in any other organic structure? This simple organization contains at least the essential elements of all great structures. Here are the embryonic wings, mandible, palpi, even mouth, and teeth both scaly and concave, and the trunk carried without the modern artificial "ticket" and "check."

There are qualities peculiar to this insect alone, which seem to adapt it to the nature of man, not only the man of husbandry, but the sage, the philosopher; for there seems to have been no want of interest or research on the subject among the ancients, for the noted Greek philospher, Aristomachus, is said to have devoted 58 years to this single branch of zoology.

Virgil at present would not help us much in a scientific point of view. We can only see the evolution—the change in culture, and the change in the solid devout science of apiculture. Of course some of his statements are possible more than probable, for he states further on in the Georgics, that a stock of bees can be obtained from the dead carcass of a steer, beaten and crushed into a mass, and then excluded from the air. Even Horace mentions in a sober manner, this little insect in his second Epode.

"Happy the man, in busy schemes unskilled,
Who living simply, like our sires of old,
Tills the few acres, which his father tilled,
Vexed with no thoughts of usury or gold;

Or in some valley up among the hills,
Watches his wandering herds of lowing kine,
Or fragrant jars of liquid honey fills,
Or shears his silly sheep in sunny shine."

Yet, that golden bee with its triple-striped body, and all those sunny habits coming as it does most probably from an Asiatic stock, and then being carried westward with the change of empires, scattered over all the lands which spot the earth, finds its finest and sweetest home in that land furthest toward the west. Not alone has the bee companions here, but in sunnier climes further south.

Turning to their Asiatic home, have they not changed much in regard to domicile, if not disposition? For Gordon-Cummings, in reference to Indian travel, describes the meeting of bees in the gorge of the Marble Rocks through which the Nerbudda river has worn its course. The homes of the hornets and wild bees are situated on the white marble, in clusters, like swallows nests, far above the surface of the river, on the perpendicular walls of the gorge. Those traveling on the Nerbudda, pass by this point in perfect silence, and many visit the wild rocks by moonlight, both on account of bees and the scenery of the crags under the light of the moon.

Messrs. Armstrong & Buddington were seeking a sight for the Nerbudda bridge at this point, but were warned not to fire a gun or disturb the bees, but were tempted by rock pigeons, and after discharging their guns, and even plunging into the water, they were unable to escape, and surveyor Buddington was drowned. The wild honey furnishes a great part of the eatable product for the wild Ethiopian, and the uncivilized Black of lately explored Africa.

David Livingston mentions in his recent explorations in central Africa, that there exists such a bird as the Cuculus Indicator or Honey-Guide, and his native companions to the number of 113 out of 114 said, that this bird leads invariably to wild bees. By means of this bird he obtained a large quantity of honey while near the African central forest. The wax is a worthless article to the natives. Near Londa, situated in the lonesome forest, native hives are met with, made from natural cavities in Mepaur trees, and set on logs. He even mentions seeing the wild natives laden with from 80 to 100 pounds of honey, bnt never saw any but log hives. On the banks of the Quango the honey found a market, at sixpence a pound, and the tribute to Sekeluta of the wild Batoka country is paid in jars of native honey.

At a village 16 degrees, 13 minutes, 38 seconds latitude, 32 degrees, 32 minutes longitude, Livingston was presented with a pint of honey by the Ethiopian chiefton's son. This honey seems to be peculiarly adapted to the wants of civilization also, consisting as it does of the sugar, mucilage, and an acid changing of course to a vinous compound when exposed to air, and furnishing all the properties of a good deturgent and aperient to the diseased body. However much the true ideas regarding the bee may be misunderstood by all nations in general, the use of its product seems to be universal.

The ancients have fixed their inadequate ideas of the bee with no small praise. The hum of the bee was no more harsh to their ears than to our own. It signified industry, contentment and happiness. Their human nature did not of course expel all of the objections to treatment and contact with them, and even among the Seven Hills of Rome, and in the city of the Greeks, near the birth-place of the blind bard, they received the praise which is due to the minute, as well as the mighty.

Praise which does not sound soft to our ears, for it is the language of the beggar among the seven cities that contend for immortal Homer. Yet the Grecian heart thrilled with the same impulse at its sound that does the American at its translation, for it sang the "Fall of Ilium"—"Fall of Troy," and the "Wrath of Peleus' son."

The characteristics of the bee have changed with eighteen centuries, and in contrast with the song of the poet, and the interest shown only by the wisest of all lands, in those early days, it exists not to be wondered at and admired, not as an industrial curiosity, but as a social insect, assisted only to assist. The help-meet of the flower, even as the sun and rain.

The hum of our social insect sounds now no longer along the woody streams of "Sunny European lands," with the omen of a wild "Hymenoptera," but now it is chatteled, even taxed. Thus has the bee been mentioned for good, for better, and for best, lauded for industry, studied for scientific ends, and placed superlative with regard to its sweet. "As sweet as honey and the honey-comb."

Each revolving year adds more to its scientific investigation. Each age to the settlement of fact and explanation of mystery. Failure and loss in our undertakings may bring despondency for the time, but the hope at least that each and all may add something to the understanding of an insect, beneficial both to the flora of the world and the luxuries (the best of the few); yields a present satisfaction, if

not an ample reward for labor bestowed in the pursuit of apiculture.

Bainbridge, O.

LUCK.

A Little Talk with Mr. Old Phogy.

Written for the American Bee Journal

BY L. W. LIGHTY.

How did your bees do last season, Mr. Old Phogy? Not very well.

Did you get any honey? No.

Did the bees get enough honey to winter on? I do not know. If they want to starve themselves, I have no objection.

Did you pack them for winter? No; I concluded that if they would store no honey for me, they must look out for themselves.

How many colonies have you? Ten or twelve. I don't know for certain. I didn't count them for sometime.

What kind of a hive do you use? Dr. Greenhorn's patent moth-proof, double-ventilator, with a non-swarming attachment.

Ah! and has it movable frames, where the combs are built in? No; what would you want to move the combs for?

To examine the condition of the colony, of course!

Oh, my hive has a glass at the side, and I can examine the colony without tearing out the comb.

How do you secure your surplus honey? I did not secure any for some years.

Well, but what preparations had you for the bees to store honey for you? I bored a hole in the top of the box, and put a lozenge box on, but never a bee entered.

Let me sell you some nice, white clover honey, in one-pound sections. Ah! I see you have some of that stuff they manufacture to order, at Chicago, or somewhere out West, and call it "white clover honey." I don't want any of that stuff!

Now, see here, Mr. Old Fogy, you certainly believe a false report. A. I. Root, of Medina, Ohio, who is a reliable man, offered $1,000 to any person who would point out the exact location of the factory where comb honey is manufactured, but it cannot be found, because there is none! This season honey is scarce and high—why do they not supply the market and make a fortune?

"Oh, well;" replied Mr. Old Phogy, "I noticed it in my neighbor's newspaper.

Mulberry, Pa.

OUR SWEETS.

Sources for Obtaining Sweets in the Middle Ages.

Read at the Wisconsin Farmers' Institute

BY MRS. H. HILLS.

The question, from what source do all the teeming populations of ancient times, and of the succeeding middle ages obtain their sweets? becomes one of considerable interest. As possibly affording some clue to the solution of this question, there may be found, it is said, in one of the earliest extant treatises of botany, written in the third century before Christ, an allusion to "honey in reeds;" just as a similar treatise at the present day might contain an allusion to "sugar in bees." The phrase is certainly a very suggestive one, and appears to indicate that the word "honey" at that time was used in much the same sense as is the word sugar with us. More than 2,000 years have passed since the ancient botanist wrote his treatise; and the curious honey-producing reeds, of which he knew so vaguely, have made their way around the globe, and played their part in shaping the civilization of a new hemisphere.

How familiar to our ears have become the accounts in the Bible, of the "land flowing with milk and honey." And now among the old land-marks that are being swept away by the relentless searchings and siftings of the modern student, in both sacred and profane records, we are told that this familiar phrase might perhaps be more properly rendered, "a land flowing with milk and grape-juice." What a startling idea! If mankind progresses in circles or in spirals, we might almost imagine that we, in our day, had just arrived at the very identical point again. Grape-juice, indeed! Let us hasten forward, to the safe ground, where the bee is monarch and queen.

The earliest Semitic and Indian records, Egyptian sculptures and papyri, as well as the poems of Homer, all testify to the early cultivation of bees, by man, for domestic purposes. And their frequent representation in Egyptian hieroglyphics, wherein the bee occurs as the symbol of royalty, clearly shows that their economy, with a monarch at its head, was known. A hive, too, figured on a very ancient tomb at Thebes, is evidence of the early domestication of the bee there, and how early, even historically, it was brought under the special dominion of man.

It was estimated over 300 years ago, by De Montfort, who then wrote a work on bees, in French, that between 500 and 600 authors had preceded him on the subject of bee-keeping. Most of these books were written in Latin, and are lost to the world, very few having been handed down to us. From remote antiquity the practice has prevailed in Egypt, of collecting great numbers of hives in vessels on the Nile, and transporting them from pasture to pasture according to the succession of flowers in the different districts. A somewhat similar practice prevails on the Rhone in France, and the conveying of bees from place to place, has been usual in Greece, Asia Minor and Persia, from the earliest date.

Strange to say, it is claimed that the honey-bee was not a native of the western continent. We are told that without doubt, there were no honey-bees here until introduced by the Caucasian race. This seems the more strange, as it is said that all the continents and islands on the eastern hemisphere abound with them. It is one more illustration of the inextricable puzzles connected with the geographical distribution of animals.

Mt. Hybla, in Sicily, on account of its great variety of odorifeorus flowers and abundance of honey, has been poetically called "the empire of bees," and Hymettus in Attica, is in the same way famous. The German, black or brown bee, is the variety best known, as through all the ages it has been most widely distributed. We find, however, that the Italians were known both to Aristotle and Virgil, who sang of the variegated, golden bee. It is said that the wider distribution of the German bee can only be accounted for by considering the more vigorous, pushing habits of the Germanic races of men: who not only over-ran and infused new life into southern Europe, but have vitalized all Christendom.

Sheboygan Falls, Wis.

CONVENTION.

The Ohio Bee-Keepers of the North Meet and Talk.

Written for the American Bee Journal

BY MISS DEMA BENNETT, *Sec.*

The semi-annual meeting of the Progressive Bee-Keepers' Association was held at Bainbridge Centre, Ohio, on May 3, 1888, with President J. B. Hains, of Bedford, in the chair.

After the usual order of business was disposed of, it was thought best to open the Question Box. All were given an opportunity to express their opinion on the different subjects, and many did so, but as this report must necessarily be somewhat brief, I will in the main give only a synopsis of the thoughts expressed.

What is the best method of fastening starters in sections? D. M. Allen uses melted wax with a spoon. Warren Pierce prepares a mixture of wax and rosin (two parts of wax to one of rosin) and dips the foundation in it. He thinks that it is not quite as neat, but it sticks better, and can be put in faster than by any other way he has ever tried. In answer to a question by J. D. Haggart, he said that he did not think that the bees drew it out quite as close to the section as when wax only was used. Mrs. O. D. Newcomb uses the Parker foundation fastener. O. J. Post prefers the Parker fastener to any other. J. B. Hains uses the Gray fastener, something like the Parker, only it is run by foot-power. He also described a starter machine made by the Berlin Fruit-Box Company, but which can only be used with wide frames. Henry Bosworth uses a machine which he made himself, similar to the Gray. As the several methods had quite a number of advocates, no agreement was reached, and the next question was taken up.

How few bees can be safely wintered in a hive? J. W. Chalker had 2 quarts of bees; the queen was reared about Sept. 1, 1887; he put them on 4 frames, and they came through all right. Mr. Haggart thinks a small colony put up properly on 4 frames will winter well if they have a good queen, but much depends on the queen. L. H. Brown: Bees enough to cover 5 frames will be best; less than than I would double up. Small colonies do not winter well, as a rule. J. L. Way asked if it was not possible to have too many bees in one hive. He thinks he lost some on that account. In reply Mr. Hains said: Too large colonies in the hive are not best, and do not keep as well either. There are extremes in both directions, and between these lies the "golden mean." Five pounds of bees in a good hive, with good stores, will come out best. It was the sense of the meeting that a medium-sized colony is best, but they would not throw aside a small one.

Does not wintering well, depend largely upon the age of the bees? It was thought to be necessary to have a prolific queen in the hive, and a full complement of young bees.

What is best to use for winter packing? Miss Dema Bennett prefers forest leaves, and gave as reasons therefore, that they are light and dry. They give good ventilation, and are easily cleaned out of the yard, not making as much litter as chaff or straw, and can be taken from the hive with less trouble. Mr. Pierce uses a honey-board frame with cotton-cloth tacked on the under side, and a board covering the top, excepting a space in the centre of 3 or 4 inches, which is covered with wire-cloth, and this is filled with leaves. Mr. Haggart uses the same kind of a frame filled with cut rye-straw. Voted for forest leaves.

Will bees secure honey enough to keep them from now until clover bloom? Mr. Brown: They consume a large amount of stores in rearing brood; more than they will gather. Mr. Hains: After fruit-bloom many will perish if they are not closely watched. It was voted that bees are not in a condition to do without feeding until clover bloom.

What does W. S. Wait think of the Heddon hive? Mr. Wait: I think that it is a good hive for honey-gathing, but not so good for wintering.

How shall we keep the bees from robbing? The following ways were spoken of: Contract the entrance; throw straw in front of the hive; spray the hive with cold water; fanning, to let the robbers out, and keep the fresh ones from getting in, and after the fanning, put a glass in front of the entrance.

After dinner, which was served in the hall, the meeting was called to order, and an essay was read by Mr. George B. Haggart, of Bainbridge, entitled, "Evolution in Bee-Culture."

An unanimous vote of thanks was tendered to Mr. Haggart for his kindness in preparing and reading the same.

The Question-Box was then re-opened.

What is the tronble when bees apparently swarm, and after being hived, return to the old hive, sometimes 3 or 4 times? Answer: The queen remained in the old hive.

What causes the bees to swarm out, in early spring? Answer: Lack of queen, or bees, or stores; diseased bees, and unwholesome hive, or too many frames.

For one having hives and frames well filled with comb, what is the best use that can be made of them? It was thought best to save the best combs, even if they had to buy the bees, but would render the darkest-colored and drone combs into wax. It was also suggested that if the combs could be hung up with a space of an inch or two between them, that the heat would not be sufficient to generate the moth.

What is the best method to pursue with swarms when working for comb honey? Mr. Wait: Contract them to 5 frames, and give starters; but use full sheets of foundation in the sections above. Mr. Pierce: Hive the swarm and put it on the old stand, moving the old colony, and so get all the working bees with the swarm. Mr. Hains: Use either frames of comb or full sheets of foundation (there should be a frame of eggs or unsealed larvæ to hold the bees) in the brood-chamber, which should be contracted; then place the new hive as spoken of by Mr. Pierce, and take off the super from the old hive and put it on the new one. For extracted honey I follow the same plan excepting that I use light-colored brood-combs, or frames filled with foundation in the upper story, and extract when two-thirds of the honey is sealed.

Which are preferable, single or double tier wide frames? Single-tier frames or cases were preferred by the majority.

Does extracted honey ever lose its flavor? It was thought that thin, unripened honey would deteriorate, but that honey well-ripened, sealed before extracting and kept covered after, retained its flavor. This opinion was no doubt partly based on the fact that we had a sample of extracted honey from the apiary of L. H. Brown, for dinner.

Statistical report of the members, as far as received:

Number of colonies Dec. 1, 1887.....	1,306
" " at present time....	1,143
Total loss	163
Per cent. of loss.....	12

One member losing 51 colonies out of 102. Aside from his report there was a loss of 112 colonies out of 1,204 last fall, and brings the loss down to 9 per cent., which is a fair average; many reporting no loss at all.

In answer to the question, as to the prospect for the honey crop, while many did not give an opinion, one-third of those who did, said "not good," and the other two-thirds, "good." The Secretary read extracts in regard to the Ohio Centennial at Columbus, and urged all to attend who could possibly do so, and also to make exhibits.

Mr. J. R. Reed, now in California, sent personal greetings by the President.

A vote of thanks was given to the "Sons of Temperance" for the use of their Hall; also to the friends in Bainbridge who assisted in entertaining this association. A motion was made and carried, that the executive committee fix the place of the next meeting.

The meeting then adjourned until Thursday. Oct. 4, 1888.

Bedford, Ohio.

A Warning.—Writing from Dakota, Mr. F. H. Canty remarks thus:

I have lost all my bees, 9 swarms, by letting my bee-cellar get below the freezing point. Take warning! or you will be like me, with empty hives, combs and sections, and bees to buy.

COMBINATIONS.

Can we Control our Honey Market by Combining.

Read at the Oneida Co. Bee-Keepers' Convention

BY J. ASPINWALL.

This subject seems to be agitating the minds of many, or I had better say a few, of the prominent bee-men at the present time. It is an important subject, and one worthy of much thought. We may, by combining to control the market, do ourselves some good, but the chances are that we will do ourselves much harm. To assert that we can so control the honey market as to place the price where we please is preposterous, and to my mind so far from possible, under the present condition of things, as to lead me to think that some other motive prompts the promoters to take the step. Let me put the facts more plainly before you: What is it that regulates trade? What is it that causes fluctuations in any business not controlled by a speculative board, as in the case of stocks and grain? I answer it is supply and demand. Coal is controlled, we know, by great combinations who place the price where they please to a certain limit, until some firm drops out, and cut-throat prices are the order of the day, to the detriment of all concerned. But is it to be supposed that because this combination owned *all* the coal fields in a certain very large district, that it could put the price of coal to $10 per ton? No, they could not hold those prices three days before coal would be coming in from the West, South, North and East to fill the markets at such a price as the market will allow. Controlling a market is a preposterous proposition, if we have not *demand* to act as the chief factor.

The honey interest has not the advantages which exist in other industries, such as iron, coal or petroleum; for in the first instance mines and wells can be bought outright and controlled, but who can buy up the flowers of the field, or who can control the flow of nectar? Only He, under whose providential care bee-culture always rests.

Suppose you gentlemen of the Oneida Bee-Keepers' Association were to combine together, and declare that comb honey should be sold by the members for not less than 20 cents per pound for the best quality, and I was an outsider, not belonging to your association. Is there any law to prevent me from bringing my own honey, and as much more as I chose to buy in other parts, and selling the lot right under your very noses at 18 cents a pound? Where would you gentlemen get your money from to continue your business, if you found buyers loath to pay 20 cents per pound for the same article they could obtain from me at 18 cents? I leave the answer to yourselves.

What would you think of a lot of enthusiasts getting together to control the egg-market, in country towns and elsewhere. How many farmers' wives would they control when it came to the question of selling a dozen eggs to pay for a new shawl, or to buy bread for the children. In this case, the egg-men have an advantage over the honey-man, in that eggs are a far greater necessity than honey, and consequently there is a *constant* demand. Supposing a man depended on honey for a living, and the "combine" of bee-keepers, to whom he belonged, should say the honey market must be 20 cents, and some fellow comes along offering honey at 18 cents in this man's market, and gluts it. Where is the member of the "combine" going to get the bread from? He will go out of the bee-business next year, and the fellow will reap the harvest in a market the first bee-keeper has toiled so many years to create. Combination, you see, was a curse here instead of a blessing.

I offer the following suggestions, not as a solution of the problem, but something towards a solution. I would propose the formation of a honey company headed by some experienced men in the honey business, and the establishing of headquarters in New York city, with branch establishments at the different centres of commerce. This to be a stock company who shall buy honey outright, and not sell on commission, and whose principal work shall be the creation of a market by circulating pamphlets tending to educate people to the numerous uses to which honey can be put, and above all inspiring the minds of the general public with the absolute confidence that when honey is bought from this company and labeled "pure honey," it is "the truth, the whole truth, and nothing but the truth."

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
May 31.—	Wis. Lake Shore Center, at Kiel, Wis. Ferd. Zastrow, Sec., Millhome, Wis.
Aug. 3.—	Ionia County, at Ionia, Mich. H. Smith, Sec., Ionia, Mich.
Aug. 14.—	Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.
Aug. 27.—	Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.
Sept. 8.—	Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Early Swarms.—J. M. Hambaugh, of Spring, Ills., on May 21, 1888, writes:

I had a natural swarm of bees to issue May 5—the earliest ever known in this section of country. I have since had two more, notwithstanding the cool, backward weather. With the weather favorable, we expect a big year for honey.

Bees Wintered Fairly Well.—E. W. Councilman, Newark Valley, N. Y., on May 17, 1888, says:

Bees have wintered fairly well in this locality. I have succeeded in carrying through safely 70 colonies out of 79, wintered in the cellar. Five months is a long time to keep bees in confinement. We have had a week of cold, damp weather, and it is still raining to-day. Bees have hardly had a flight during the whole week.

Cold and Cloudy Weather.—C. Thielmann, Thielmanton, Minn., on May 18, 1888, writes:

The rain ceased for about six days, but it is cold and cloudy most of the time. My bees are getting light in stores, as they secured but little the past three weeks; otherwise they are strong and in a healthy condition.

Improperly Caring for Bees.—Dr. E. W. Parker, Larrabee, Iowa, on May 19, 1888, says:

I put 22 colonies of bees into the cellar, and have but 11 now. Two colonies starved, and 9 had the diarrhea, caused by late honey improperly ripened, or rather, not ripened at all; so my loss is entirely my own fault; and I am of the opinion that nine-tenths of the losses where bees are wintered in good cellars is chargeable to the bee-man himself.

Good Prospects for Honey.—D. Danlher, Madison, Wis., on May 17, 1888, says:

The weather is poor for bees—raining all the time. I have 30 colonies alive, 3 starved to death, and 3 I doubled up. The temperature was 42° in the cellar. All looked as if dead when taken out, but they soon were at work. The prospects are good for a big crop. White clover is all alive, and in ten days we will have plenty of fruit-blossoms. I had no honey last year. There has been no trouble to sell any the past winter for 20 cents per pound.

Bee-Keeping in Washington Territory.—Frank McIlvain, Teanaway, Wash. Ter., on May 12, 1888, writes:

On April 27, 1887, I got 2 colonies of bees and put them into Simplicity hives. Bee-keeping is a new industry in this part of the country, mine being the only bees kept here. I had one swarm. For wintering I placed boxes on the outside of the hives, 6 inches larger than the hives, which I filled with chaff. I removed the sections and placed on Hill's device, over this a piece of cloth and filled in with chaff. When I examined them in January, I found that one colony had become damp, the packing wet and moldy, and the bees dead. Another

colony was in the same condition. I removed the packing, placed in dry chaff, and the live one did finely afterward, and began to gather pollen from the willows by March 10. I will not remove the packing until the bees begin to fan the entrances. The first honey-flow will be from vine maple, and it will soon be here.

Queenless Colonies, Swarming, etc.—Wm. H. Graves, Duncan, Ills., on May 14, 1888, writes:

My loss the past winter was one-half—40 colonies out of 80. Short of stores and too many old queens was the cause. By having no swarms last summer, comparatively speaking, I had a great many old queens which would not breed up strong to go into the winter. I never before had so many queenless colonies. April is a bad month for bees, so cold and cloudy. I have been feeding my bees since April 1, every night. I have just hived a rousing natural swarm of Italian bees—from a colony that I had fed strongly every night since the last of March, to get early drones from them. I have received two packages of the Chapman honey-plant seed. I gave one to a bee-keeper friend, and planted the other long ago.

White Clover Looks Promising.—N. Staininger, Tipton, Iowa, on May 13, 1888, says:

We have had a great deal of rain here for the past two weeks, and now it has turned very cold. There was ice ¼-inch thick on the water trough. The bees come out, become chilled, and die; and there is a great loss in brood. There is a loss of three-fourths of the bees among the small bee-keepers. I have 90 colonies, and the most of them are in pretty good condition. Some have from 6 to 8 frames of brood, and plenty of drones flying now. I moved my apiary from Denison, Iowa, to Tipton, on April 5, without loss. I had put 101 colonies into winter quarters, and took out the same number; 100 colonies were in the cellar, and one colony was packed outside. I sold 7 colonies, and had 4 queenless ones that I doubled up. There was not one comb broken in all of them. White clover looks fine, and I hope we will have a good crop of clover honey.

Prospects for a Good Honey Crop.—H. M. Moyer, Hill Church, Pa., on May 12, 1888, writes:

I have 57 colonies of Italian bees (blacks are not worth keeping here). Last summer I obtained 1,500 pounds of honey (mostly extracted), and 24 pounds of wax. I fed back about 500 pounds of honey. The retail price of extracted honey is 12 cents per pound, and of comb 20 cents. The prospect is for a good honey crop. White clover is our main source here. I commenced this spring with 43 colonies.

Bees in Good Condition.—J. E. Walker, Clarksville, Mo., on May 16, 1888, writes:

I packed 21 colonies of bees on the summer stands late last fall, with 5 inches of sawdust over the frames. They wintered well, and less dead bees were thrown out than I ever saw before. They carried in the first pollen on March 15. I saw drones on April 11. They had a busy and a happy time for two days on apple blossoms. All the 21 colonies are alive to-day, and in good condition. Many bees have died in this part of the country.

Honey-Plants in British Columbia.—Russell Smithers, New Westminister, B. C., on May 14, 1888, writes:

As far north as I am situated, here on the Pacific Coast, my bees were working hard, carrying in pollen from willows, as early as March 7. Eastern bee-keepers may be interested in the fact that skunk cabbage flourishes here as it does there, and bees patronize it just as freely. The prospects for this year are good. White clover will soon be in bloom, and this is our main resource. Can any one suggest the best honey-plant for this climate—one that would flourish on soil that is somewhat gravelly and poor?

Poor Prospect for Honey Crop.—J. G. Nance, Gracey, Ky., on May 20, 1888, writes:

I will give a brief statement of the situation here: The winter loss was very small; not over 5 to 10 per cent. The fruit bloom was very full. The clovers (both white and red) are badly winter-killed; worse, in fact, than I ever saw it before. The osage orange (hedge trees) are now in full bloom, and the bees are at work on them. Cherries are now getting ripe. Apples and peaches are as large as hickory-nuts. Our Congressman sent me some Chapman honey-plant seed, but it has not come up yet. The weather is very dry and cool, and the prospects for a honey crop are very poor.

Fruit Bloom.—Mr. Thos. C. Evans, Brownsville, Minn., on May 19, 1888, reported thus:

I started last spring with 47 colonies of bees, increased them to 77, and obtained 5,000 pounds of comb honey and 500 pounds of extracted. I put them in the cellar on Nov. 9, where they remained 176 days; and excepting 2 colonies which I took out to-day, all are good condition. I lost but 4 colonies. Two were robbed out, and the other 2 were queenless. It is a very late spring, but I look forward for good crops. Fruit trees are just coming into bloom, and white clover looks well.

Late Season.—O. B. Barrows, Marshalltown, Iowa, on May 17, 1888, writes as follows:

Bees wintered well in cellars in this vicinity during the winter of 1886-87. They bred up well for the white clover honey-flow of 1887, which never came, but a four or five days' dash of basswood enabled those that were strong in bees to fill up the brood-chamber for winter; but what few divided their force by swarming, had to be fed, or starve. There was no fall flow of honey, and consequently they lost in weight through September, October, and, in fact, ever since. A colony that I weighed on Sept. 16, had lost 5 pounds by Nov. 19, when I finished putting my bees into the cellar. In the next 70 days, in the cellar, the same colony only lost 2½ pounds, and only 2 or 3 pounds since then.

On April 6, when I put them out, they carried in pollen from corn and oats, ground, freely, until April 22, when they left the corn and oats for natural pollen. April was pleasant and dry until the 26th, and people prophesied another drouth, but suddenly it changed, and commenced to rain on April 26, and it rained some every day for 16 or 17 days, and for the last 22 days there have been but 4 days that bees could fly freely; consequently in building up strong for the honey crop, they are making haste slowly, but possibly they may be in time for the honey crop, for plum trees are just in blossom, and apple trees, strawberries and other fruit are not yet in bloom.

My brood-chambers takes frames 12x12 inches. Most of the hives have 10 frames, but 6 or 8 were 8-frame hives, and those 8-frame hives came out without an exception light in stores and weak in bees, while all the 10-frame hives, which were not queenless, were strong in bees, but not quite all heavy with honey. I wintered mine in a light cellar, *a la* Hutchinson. Five windows were not darkened, and the cellar was used for fruit and vegetables, and visited a dozen or more times each day. The thermometer stood at from 34° to 45° above zero. The bees were dry, clean and healthy, very quiet, and in excellent condition, with the exception above spoken of. The losses from all causes in this county will be from ¼ to ⅓ of all put in the cellars.

Bees Wintered in a Cave.—Henry Stark, Plier, Wis., on April 16, 1888, writes:

I commenced the spring of 1887 with 6 colonies (5 brown and 1 Italian). I got 12 natural swarms from that one Italian colony, and 700 pounds of surplus honey. The brown-German colonies gathered 350 pounds each, and each cast one swarm. I put 14 colonies in a cave the forepart of November, and took them out on April 14 and 16, all in fine condition. They all have from 20 to 45 pounds to spare. The rest I wintered on the summer stands, packed in chaff. I pack my bees thus: Twelve inches from the ground, 12 inches of chaff all around the outside, 2 division-boards, 4 inches of chaff between the hive and the division-board, a device 1½ inches high, coffee sacking, one sheep skin with 4 inches of wool on it, and 12 inches of chaff on top. I have never lost a colony in wintering in this way. The year 1887 was the best honey year I ever saw. The temperature in my cave was from 45° to 48° all winter. The bees were in the cave about 163 days, without a flight.

An Apicultural Conundrum.—James McNeill, Hudson, N. Y., on May 18, 1888, writes as follows:

There is a conundrum that I would like to propound to Mr. Doolittle, and it is this: How does he manage to make his 9 Gallup frames furnish all the room needed by "the really good queen, one which will lay from 3,000 to 4,000 eggs a day?" which he speaks of on page 323.

If I have figured correctly, each of his frames of 10¾x10¾ inches contain 115 square inches, and with 50 bees to the inch, such a frame would hatch out 5,750 bees, if filled solidly with brood. Taking his lowest estimate of a prolific queen—3,000 eggs per day—it would require 63,000 cells to furnish such a queen with the necessary room, for each cell is occupied for 21 days days before it can be used a second time.

Now, according to my figuring, it would require very nearly 11 frames of the size above-mentioned, to furnish 63,000 cells; and when it is remembered that nearly ¼ of these cells would be occupied with pollen and honey, I would like Mr. Doolittle to explain why a "really good queen" would not be very much cramped in his 9-frame hive.

[Mr. Doolittle will, no doubt, be pleased to answer the conundrum presented above, at some future time.—Ed.]

A Pocket Dictionary will be presented for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Your Full Address, plainly written is very essential in order to avoid mistakes.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ¼ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.

HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

DETROIT.

HONEY.—Best white in 1-pound sections, 14@15c. Extracted, 9@10c. Supply decreasing slowly.
BEESWAX.—23c.

May 21. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 15@16c. for best one-lb. sections; other grades are slow, at lower prices. Extracted, 7@8c. Light demand, and supply larger than usual at this season of the year.
BEESWAX,—23c. R. A. BURNETT,
May 1. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@8c. Market is dull for comb but improvig for extracted, of which new from the south is arriving.
BEESWAX—Scarce, 24@27.

May 21. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 18@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.

Mar. 13. S. T. FISH & CO., 189 S. Water St,

CINCINNATI.

HONEY.—We quote extracted at 4@9c. per lb., for which demand is good. Comb honey, 14@17c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Apr. 23. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 6 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.

Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.

Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@16c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 16 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.

Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.

Mar. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 10@17c.; amber, 9@14c. Extracted, white liquid, 7@7½c.; amber and candied, 6@7c. Market quiet.
BEESWAX.—18@21c.

Mar. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c.; unglassed, 16c.; white 2-lbs., glassed, 16c.; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.

Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

The Bee-Keepers' Review

FOR MAY is now out. Having regained the time lost during his illness, the editor will hereafter take pride in getting out the REVIEW promptly on the 10th of each month.

The special topic of the present Number is "Hiving Bees." The review of Mr. Cheshire's work, which was begun in the March No., is finished in the present issue. We have a surplus of the Numbers containing this review, and, so long as they last, these three Numbers will be sent free to all who apply.

☞ Price of the REVIEW, **50 cts.** a year.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, **W. Z. HUTCHINSON,**
20Atf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

Dissolution Notice.

THE partnership heretofore existing between J. M. McCaul, L. S. Hildreth, and H. P. Hildreth, under the firm name of McCaul & Hildreth Bros., expires this day by limitation.

The undersigned will settle all business connected with the late firm of McCaul & Hildreth Bros., and continue the business as manufacturers of Grocers' Specialties, and dealers in Honey, Maple Sugar, Maple Syrup, Imported and Domestic Salad Oils, etc., at 28 and 30 West Broadway, the location formerly occupied by the late firm. A continuance of your patronage is solicited, and all orders will be carefully and promptly filled.

Respectfully, **HILDRETH BROS.**
28 and 30 West Broadway, New York, April 30, 1888. 22A1t
Mention the American Bee Journal.

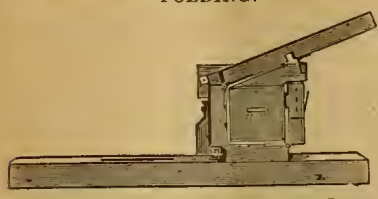
BEES FOR SALE.

100 colonies of brown German and hybrid Italian bees in Langstroth 8-frame and Simplicity hives, in lots to suit purchaser; also a quantity of wide frames and half-story frames Simplicity size, at a bargain.

Address, **W. L. COGGSHALL,**
22A2t West Groton, Tompkins Co., N. Y.
Mention the American Bee Journal.

SECTION FOLDER.

FOLDING.



FOLDED. **(Patent applied for.)**

☞ 500 every hour. The corners need no moistening. No breaking. Every Section square and perfect. Every honey-producer should have a Machine.

Bee-Hives, sections, Cases, Foundation, and all Apiarian Supplies.

Queens and Bees for 1888.—It should be borne in mind that we are the Headquarters for the **ALBINO QUEENS.**

Address, **S. VALENTINE & SONS,**
22A1t HAGERSTOWN, Washington Co., MD.
Mention the American Bee Journal.

A **FEW TESTED ITALIAN QUEENS,** (by return mail) $1.50. After June 15, $1.00 each.

GEO. STUCKMAN,
22A1t NAPPANEE, IND.

CARNIOLAN QUEENS.

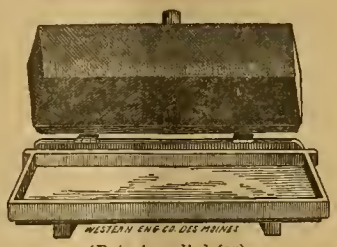
Gentlest bees known; not surpassed as workers even by the wicked races.

Imported Queens, "A" grade, $8.00, Tested, $4.00; Untested, in April, $2.00,

In May, $1.50; after June 1, $1.00.

I can accept no more Orders to be filled before June 1st. Send for circular.

S. W. MORRISON, M. D.,
14Etf. Oxford, Chester Co., Pa.



(Patent applied for).

BEST FOUNDATION FASTENER for Brood-Frames and Sections. Description and Illustration sent free on application.

J. W. BITTENBENDER,
20Etf KNOXVILLE, Marion Co., IOWA.

10 per cent. OFF

ON **SECTIONS,** from prices given in price-list. We make **four grades of COMB FOUNDATION—Heavy Brood, Light Brood, Thin & Extra Thin** for Sections.

☞ Send for free Price-List and Samples.—**Dealers,** write for special prices.

Address, **M. H. HUNT,**
Bell Branch, Wayne Co., Mich. (near Detroit).
2Etf
Mention the American Bee Journal.

SAMPLE **COPIES** of the **AMERICAN APICULTURIST** and our Price-List of

Winter Strain of Pure Italian Bees

sent free. Address,

18Etf **APICULTURIST,** Wenham, Mass.

SMITH & SMITH

We have one of the largest

Bee-Hive Factories in the World.

☞ If you are interested in BEES, send for our Price-List—*Free.* Good GOODS, and fair Prices. Address, **SMITH & SMITH,**
10Etf KENTON, Hardin Co., O.

BEE-SUPPLIES, RETAIL AND Wholesale.

The Largest Steam-Power Shops in the West; exclusively used to make **Everything** needed in the Apiary, of practical construction and at **Lowest Prices. Italian** Bees, Queens, 12 styles of Bee-Hives, Sections, Honey-Extractors, Bee-Smokers, Bee-Feeders, Comb Foundation, and everything used by Bee-Keepers always on hand. My Illustrated Catalogue FREE. **E. Kretchmer,**
16Etf **Coburg, Iowa.**
Mention the American Bee Journal.

100 **COLONIES** of **Italian** and **Hybrid Bees** for Sale at bottom prices. Also, JAPANESE BUCKWHEAT for Seed. It has a profuse bloom and is wonderfully productive.—Write for prices. **A. J. & E. HATFIELD,**
14Etf SOUTH BEND, IND.
Mention the American Bee Journal.

Eaton's Improved **SECTION-CASE.** BEES & QUEENS. Send for free catalogue. Address **FRANK A. EATON,**
7Etf BLUFFTON, OHIO.
Mention the American Bee Journal.

ITALIAN BEES and QUEENS.

ONE Untested Queen, $1.00; 3 for $2.00. BEES by the Pound and Nucleus. Send for Price-List.

Address, **H. G. FRAME,**
9E13t **North Manchester, Ind.**
Mention the American Bee Journal.

WANTED,

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., - CHICAGO, ILLS.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

IMPORTED QUEENS.

FRIENDS: I have QUEENS in my Apiary as fine and as good as you can import to the free land of America. My Bees equal any that ever spread wing 'neath the sunny skies of Italy. You have but to try them and be convinced. Untested, $1; Tested, $2; Select Tested, $2.50; Standard Breeders, $3.00. BEES by the lb., $1; Frame of Brood, 75 cts.

R. H. CAMPBELL, (Lock Box 215),
12E12t MADISON, Morgan Co., GEORGIA.
Mention the American Bee Journal.

2-Story Langstroth Hive, 80c.

WE still have a few of those Two-Story **Langstroth HIVES** with 10 Brood-Frames, at **80 cents.**

Who wants them? Speak QUICK, or it will be too late. Address,

SMITH & SMITH,
10Etf KENTON, Hardin Co., OHIO.
Mention the American Bee Journal.

THE NEW HEDDON HIVE

NAILED AND PAINTED.

WE have a **FEW** of the above hives, all complete, for sale, at $4.00 each. As we do not handle these hives this year, we cannot fill orders for them in the flat. Those nailed and painted are left from last year's stock.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

SURE to send for our Circular before buying. Italian Bees by the lb., 2 or 3 fr. Nuclei, Queens, Foundation, &c. Unt'd Queens in May, $1; in June, 75c.; 6 for $4.

Jno. Nebel & Son, High Hill, Mo.
22Etf
Mention the American Bee Journal.

MINNESOTA AHEAD!

WE are selling **100 All-Wood Langstroth Brood-Frames** for $1.00; and Langstroth HIVES, with Supers, for 55 cts.

☞ Don't order your Supplies for 1888 until you see our Circular.

WM. H. BRIGHT,
10Atf MAZEPPA, MINNESOTA.
Mention the American Bee Journal.

READY TO SHIP.

24 **ITALIAN QUEENS,** all reared from imported mothers in swarming season. One, untested, $1.00, 3 for $2.75. Two-frame nucleus with 2 lbs. of bees and untested queen for $4.00. Price list free.

J. N. COLWICK,
21A3t Norse, Bosque Co., Texas.
Mention the American Bee Journal.

ITALIAN QUEENS. Extra fine and swarm reared. Untested $1.50; tested, $2.50. Bees by the pound, nucleus, and full colony.

REV. W. F. ASHE,
22A1t EDWARDSVILLE, Madison Co., ILL.
Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. June 6, 1888. No. 23.

EDITORIAL BUZZINGS.

Hope leads the child to plant the flower,
The man to sow the seed,
Nor leaves fulfillment to her hour,
But prompts again to deed.

Sugar from Honey.—The *Apiculturist* for June contains something on the above subject. Mr. Alley quotes the following suggestions from his periodical for October, 1886:

The National Convention, which meets at Indianapolis this month, should take some action regarding the matter of disposing of surplus honey. We suggest for the consideration of the meeting, that the sum of $5,000 be collected from the bee-keepers throughout the United States, and paid to the person who will devise some method for converting boney into sugar, similar to granulated sugar. We believe it can and will be done, provided a proper inducement is held out, and a sum sufficient is offered to compensate for the time, trouble and expense of conducting experiments.

The above sum can be raised from the bee-keepers of this country. Small producers might pay $1, and larger ones as high as $5 each. We respectfully submit the above suggestions to the convention for its consideration.

Mr. Alley then makes these remarks:

Those present at the convention well know about how much notice was taken of the above suggestion. Well, I have the satisfaction of knowing that the idea was not so very "cranky" after all, as the following extract from a letter will show.

The "extract" referred to is from a letter written by Allen F. Smith, of Plaquemine, La., and is as follows:

I am a practical sugar maker of the sugar cane, and I am under the impression that I can make a very good grade of sugar from honey, which I have been contemplating doing for some time, but have not the means to give the experiment a fair test. Should the bee-keepers of the United States decide to offer a premium to the one who will put the matter to a practical test, I shall be glad to make the first experiments. I am almost certain that I can succeed; there is nothing difficult about it. We can make sugar from beets and pumpkins, why not from honey? Give me the means to give it a fair *trial*, and I will produce the sugar from honey.

Then Mr. Alley triumphantly asks: "Well, friends, how is that? There is nothing like being a little in advance of some other people."

If the "advance guard" is sought, we invite friend Alley into our Museum, where he may find a can of sugar made from honey, which has been there for a dozen years. It was *made* by Mr. T. S. Bull, of Valparaiso, Ind., and by him placed in the Museum. Hundreds upon hundreds have examined it, and pronounced it "all right"—and excellent sugar.

The only thing to discourage the manufacture of sugar from honey is *the fact* that it does not pay, and never can be made to pay! It costs too much, to place it in competition with cane sugar.

It is, therefore, quite useless to throw away $5,000 to obtain a method for making it. That idea is not an *advance!* It is away behind; and so far in the rear as to be "out of sight," and apparently forgotten!

The Dark Side.—Mr. S. B. Ryder, of Brandon, Vt., on May 24, 1888, writes us as follows concerning the dark side of apiculture:

The New York *Independent* having printed within a year past several articles tending to show the favorable side of bee-keeping. Another correspondent lays his pen to the task of bringing out the other side. I enclose a slip containing the gist of his matter as printed in the Springfield *Republican*. It is a curiosity.

I was surprised to read, in one of your recent issues, the statement of a correspondent in northern Illinois, that the Chapman honey-plant was liable to winter-kill. My experience with it is limited, but I do not think that I ever lost a plant from that cause, and surely the winters in Vermont are as severe, or more so, than in northern Illinois. The plant makes an early start in the spring, and has every appearance of being a hardy as well as a thrifty thistle.

Here is the selection mentioned in the above letter:

BEE-KEEPING NOT A PROFITABLE RECREATION.—Bee-keeping is usually represented in the papers as a very fascinating and profitable occupation, one well designed for women and amateurs who would gain a living in a truly idyllic way. A veteran apiarist punctures the bubble in this fashion: As near as I have been able to ascertain, extracted honey has sold in California the past few years at 3 and 4 cents a pound; in other parts of the United States from 5 to 8 cents a pound. The tendency of prices is steadily downward. The honey crop of the past year being one of almost universal failure, prices have raised temporarily.

I know of but one way to get a fair price for any considerable quantity of honey, and that is to peddle it personally from house to house. The reader can decide as to whether or not he would like peddling. To send the honey to the commission men of the cities is, generally to throw away the season's work.

As to bees, they are, doubtless, the most unsalable stock known. Put up at a forced sale, I do not think they would bring $1.00 a hive. I believe that practical bee-men, who have been through the mill, are pretty well agreed that bee-keeping, from beginning to end, requires hard work, business ability, and a patience made of irridum to withstand the losses, ruinous prices, and the many other petty discouragements peculiar to bee-keeping.

The many painful experiences (I refer to stings) of which I have known among those who ignorantly attempted to handle bees, have led me to decide that if I had the law in my hands, I should prohibit all persons from touching bees who had not had sufficient enlightment to enable them to handle bees with comparative safety.

We are very often accused of publishing only the bright side—of presenting only the pleasant things about the business of keeping bees. In the above, certainly a glimpse of the other side is given, enough to satisfy any one that it is not all sunshine in the pursuit of apiculture.

There are many who should never attempt to keep bees—the shiftless, the lazy, the one who will not read and study the necessities of the business, those who are afraid of stings, those who are nervous and irritable, and those who have no time to attend to the care of the bees. All such should never attempt to keep bees.

Failures come in every avocation. Of no occupation can it be said that it never fails. Bee-keeping is no exception to the general rule—but it is not more liable to failure than others. The manufacturer, the banker and the merchant often have to grapple with financial distress and commercial panics—but, do they forsake the counter, the desk, and the factory, and look for some other business wherein loss and trouble never come? No! indeed, such reverses but stimulate progressive men to further diligence and more dauntless courage!

When the bankers, merchants and farmers set the example, it will be time enough for apiarists to become discouraged and give up the business—but not till then!

The Apiculturist for June is out; came to our desk on the morning of the 1st—on time, as usual. It is filled with good reading matter, and by the use of smaller type and wider columns it is much improved, and will be more economically published than heretofore. We wish it abundant success.

The Statistical Blanks were sent to the United States Statistician some months ago with a long letter of suggestions by Prof. Cook, but nothing has ever been heard from the matter since. This we mention because there have been quite a number of inquiries concerning it, asking what has been done, etc. There is so much "red tape" about everything connected with the Government, that we could expect nothing else. Probably by next year they may get things to running, and may grind out a batch of statistics for us. We shall see.

BUNCH OF WILD FLOWERS.

BY NELLIE CHASE.

In passing through a clover field,
I cull a nosegay, wild and sweet,
Of flowers, wind-sown, at my feet—
Blooming among the meadow grass,
They nestle timid as I pass—
But gay as any lawn could yield.

Feathery sprays of elder bloom,
And daisies bright as stars of gold,
With milkweed's pink and orange mold,
A head of rye, a head of wheat,
Some clover blossoms pink and sweet,
I choose to deck my study room.

In passing through this life of ours,
We find our dullest days alight
With blessings hidden half from sight.
Among the weeds of toil and strife,
Are loving deeds that brighten life,
Scattered along our path like flowers.
—*Selected.*

GLEANS OF NEWS.

Bees and Honey in Canada.—The following is the report of the Ontario Bureau of Industries issued by the Ontario Department of Agriculture, dated at Toronto, May 15, 1888. Its statistical information will be read with interest:

It was evident when the bees were placed in winter quarters that the season would be very trying to them. The flow of honey had ceased unusually early in the summer, and so had breeding, and as a consequence stores were light in the hives, and the occupants were chiefly old bees, lacking the vitality to stand a long period of winter seclusion.

Losses are reported as general, ranging from 5 to 75 per cent., and it may be assumed that about one-fourth of the colonies entering the winter died before the time came for their spring flight.

The counties of Huron, Bruce and Simcoe seem to have suffered most heavily in the matter of winter losses. In many instances the bees died of actual starvation, owing to the scanty supply of summer honey; and to poorly ventilated cellars are also ascribed a cause of loss, although several experienced apiarists express themselves as puzzled to account for the mortality in certain cases. Many of the surviving colonies were weak from long confinement in their winter repositories, and the cold and backward spring thinned them out in several districts. Complaints were also made of losses from diarrhea and spring dwindling.

Where specially well fed and cared for during the winter, the honey-makers came out as a rule very lively, and are now busily engaged carrying early pollen.

No mention is made of foul brood from any quarter.

An effort was made during the past winter, at the suggestion of the Bee-Keepers' Association, to procure statistics of the industry, and 3,000 schedules were sent out to apiarists in the province. Returns were received from 651 persons, sufficiently complete for tabulation, the aggregates of which showed that 19,015 hives were put into winter quarters in 1886, and 23,828 in 1888. The season of 1887 opened with 14,613, showing a decrease of 4,402 during the winter; but as sales were not reported, it is not likely that the whole decrease was due to mortality. The increase by colonies last year was 19,863, making an aggregate of 25,476 hives for the season.

These gave a product of 112,477 pounds of comb honey, 499,093 pounds of extracted honey, and 6,686 pounds of wax, valued at $67,237, or an average of $103.28 for each proprietor.

Full returns for the province would doubtless show that the industry is one of very considerable importance, but a practical difficulty in the way of procuring statistics is the lack of a complete list of apiarists.

Seasonable Hints.—Mrs. L. Harrison, in last week's *Prairie Farmer*, gives the following on the present outlook for a honey crop, and management of weak colonies:

Though the outlook is at present unfavorable, all bee-keepers should keep their dishes right side up to catch the shower if it falls. I have seen the ground white with bloom, and yet the bees took no notice of the blossoms. If, however, the electrical conditions should be just right, and nature's labratory in good running order, there may yet be a fair harvest. In some favored localities, basswood may yield a large supply of a fine quality of honey.

I used to practice taking from strong colonies to build up the weaker, but I believe it is poor policy, for men or bees. Strong colonies are the ones which pay the rent. Some bee-keepers take brood from the weaker to aid the stronger during an approaching flow of nectar. These small colonies reduced to a nucleus, can be built up after the rush of business is over, and I think much more honey will be secured in this way than by taking from the stronger to strengthen the weaker. There is no profit in weak colonies, barely able to support themselves—living merely from hand to mouth.

Last season the bees were all ready to move; queen-cells capped, and their haversacks packed for the journey, when the honey failed. Now bees are wiser than some people who set up housekeeping with no income. When there are no supplies coming in, they stay where there is a well-stored larder, and are content not to increase their family very much, and when worst comes to worst, drive out all non-producers (those that they had so carefully nursed only a short time before), even casting out undeveloped brood. When I saw this state of affairs, I began to cast around to see what to do with the combs not used. I was tired of fighting moths, so I concluded that all the strong colonies could easily spare two combs of honey, brood and bees, and put two of these empty ones in their place. I put these frames of brood and bees into a hive until it was full, alternating them; they were so mixed they did not fight. I had no extra queens, so I let them rear their own. As the season turned out, I should not have had any surplus, and the strong colonies were not injured; and the combs were preserved.

Planting for Honey.—Upon this subject Mr. W. Z. Hutchinson writes an article for the *Country Gentleman* for last week. He takes the ground that "to be of any value there must be acres and acres of bloom." Hence there should be acres and acres planted, for we cannot expect honey unless there are honey-producing blossoms in profusion. He closes the article thus:

It must not be forgotten that cultivated plants on rich land often yield honey much more abundantly than those growing wild, or upon a poor soil. As not many could afford to devote tillable land to the cultivation of a crop without reasonable expectations of securing at least $15 per acre for the use of the land, for labor and seed, it is evident that planting for honey could not be indulged in unless 500 or 600 pounds of—not simply honey, but of surplus honey, could be secured, per acre.

As this amount of honey is worth at least $75, some may wonder why such a large yield would be needed to make the planting remunerative. The reason is this: Four-fifths of the cost of honey is represented by interest on bees and fixtures, rent on land, and by labor, the latter item being much the largest; hence, if the surplus be increased by planting, this increase is not clear profit by any means. It is true that there are farm crops, such as Alsike clover and buckwheat, that will produce honey, but it is seldom that it would pay a farmer to make very much change in his farming routine simply that his bees might have access to a few acres of Alsike or buckwheat. The latter seldom yields honey in paying quantities oftener than once in four or five years.

All things considered, there is probably no plant that can be raised in this latitude with better prospects of receiving a crop of honey as a free gift than Alsike clover. In soils adapted to its growth, such as moist land or gravelly loams, Alsike is a profitable crop for farmers to grow. I have just returned from a visit to Ionia county, Mich., where I found that Alsike was grown to the exclusion of red clover. The Alsike is not "heaved" by the action of the frost in spring, as is red clover; hence I found many farmers using it for pasture. When thus treated it becomes of great value to the bee-keeper, as there is a profusion of blossoms throughout the whole season. In ordinary seasons Alsike furnishes no aftermath, as does red clover; in wet seasons it does. When cut for seed, if not allowed to stand too long, the clover, after being threshed, is equal to timothy for hay. For sowing in waste places, there is probably nothing better than sweet clover. It will spread and take care of itself, and the honey is of light color and good flavor.

Let all remember, however, that small "patches" of honey plants are of no account; that a few often may even be a detriment, as the honey furnished would be so small in amount as only to invite to brood-rearing, and no surplus would result. To be of any value there must be acres and acres of bloom.

Albino Bees.—Mr. Thomas A. Anderson, of Big Springs, Mo., on May 29, 1888, writes as follows:

On page 259, third column of the BEE JOURNAL for April 18, 1888, in your answer to Mr. Barker's question, you say "Albino bees have white bands instead of yellow." Is this correct? If so, we are sadly misinformed, and we have bees from Maryland's best breeders.

Mr. Barber asked, "Are there any bees that look like the Italians, but that are white instead of yellow?" We briefly answered, "Yes; Albino bees have *white* bands 'instead of yellow,'" quoting the last three words of the question.

Our intention was to simply inform Mr. Barber that there were such bees as Albinos, and not to *critically* describe them. Had this been our aim, we should have said that the white bands were additional to the usual yellow ones—though in different strains of these bees, the number of yellow bands vary, as do the shades of color in the yellow; some being rich orange, and others pale yellow, almost white. Those bred in our apiary here, some years ago, had three yellow and two white bands all distinct and plain to be seen.

INTERROGATORIES.

Fumigating Honey.—Mr. J. Smith Head, of Park Place, Ark., on May 23, 1888, writes :

The weather throughout this section of country has been dry and cool, but the bees are doing well. So far I have averaged about 18 pounds per colony. I started here this season with 80 colonies, mostly in Langstroth hives ; they have increased to one hundred.

1. Is it best to fumigate my section honey before shipping ? 2. Can I fumigate it sufficiently in a tight room with sulphur by having the sections scattered promiscuously around on the shelves and places ?

1. Yes, by all means. 2. It would be better to pile up the sections of honey. In order to make this very plain, we will let Mr. Doolittle describe how he does it. He says: "We build a platform on either side of our honey-room of scantling, about 16 inches high, and on this we place the boxes, so that the fumes from burning sulphur can enter each box ; in about two weeks we fumigate, by burning ¾ of a pound of sulphur for every 200 cubic feet in the room. We take coals from the stove and put them in an old kettle, so as not to get anything on fire ; pour on the sulphur and push it under the pile of honey, and shut up the room. Watch through the window, and in 15 minutes after the last fly or bee that chances to be in the room has died, open the door and let out the smoke, for if it stands too long, the smoke may settle on the combs and give them a greenish hue. As there may be a few eggs that have not yet hatched, we fumigate again in about 10 days, after which the honey will be free from moths, if you do not let millers into the room."

Chapman Honey-Plant Seed.—A. D. Buckley, of Weston, Tex., on May 26, 1888, writes as follows concerning it :

In reply to the question in the BEE JOURNAL I would say that I wrote to the Department at Washington for some of the above seed several weeks ago, and I am now informed in reply that they had no more of the seed left—all had been sent out. I am sorry, for I would have been glad to receive some to try in the Sunny South of Texas. I have 90 colonies of bees, and have had 8 swarms. The prospects for increase and honey are very good. I have from 4 to 6 acres of sweet clover ; it grows from 4 to 6 feet high here.

Now that no more seed is to be given away by the Department, we happen to have a little left, and can supply those desiring to test its value as a honey plant in their localities. For prices see page 381. As we have but a few pounds it will be necessary to order at once, to get some of it.

Bee-Keeping was known to the ancients. Canaan was a "land flowing with milk and honey." The Perstans, Grecians, and Romans used honey entensively as an article of food, and in preparing their food.

BIOGRAPHICAL.

MR. J. B. HAINS.

The following is a biographical sketch of Mr. Hains, furnished by Miss Dema Bennett, of Bedford, O., and it will be read with interest :

The parents of Mr. J. B. Hains came from Vermont to the Western Reserve when this part of the country was a trackless wilderness, and his father, Rev. N. C. Hains, who was a Methodist minister, organized the first church in this place.

The subject of this sketch was born June 13, 1833, and the deed to the homestead, where he has always lived, was made on that day.

He has been interested in bee-keeping ever since the first swarm which he hived on July 4, 1844, and the bees in his apiary are in direct line of that first swarm. Mr. Hains early adopted the movable frame,

Mr. J. B. HAINS.

and prefers the Langstroth frame to any other. He also carefully tested the different races of bees, finally choosing the Italian to the exclusion of all others.

Being desirous of establishing apiculture on a better basis, he transferred the bess in this locality from box-hives to movable combs, and Italianized them at the same time. Both Mr. and Mrs. Hains devoted the entire summers of 1878 and 1879 to transferring and caring for the bees within a radius of 10 miles, when the box-hive became a thing of the past, as far as this locality is concerned.

By furnishing the hives and doing the work for one season, he acquired ownership of one-half of the bees, which aggregated more than could be profitably managed in one locality, and which he divided into six apiaries, at convenient distances from home, making seven apiaries in all.

The out-apiaries are managed by assistants, and run principally for comb honey, while his home apiary of 100 colonies is devoted to the rearing of queens, nuclei, and the production of extracted honey.

He experimented with regard to comb foundation before it was successfully made, purchased and used it on its first appearance regardless of expense, and when the price was reduced to 75 cents per pound for a very poor article, 4 feet to the pound, he purchased it in large quantities, and used full sheets in all of his frames.

Mr. Hains was engaged in the hardware business for many years, but as the bee-keeping interest developed so rapidly, it became necessary to abandon one pursuit or the other, but his preference for apiculture, combined with his thorough knowledge of the business, induced him to give up the former about two years ago, since which he devotes his entire time to apiculture, except in winter, which he employs in other interests.

Mr. Hains is President of the Progressive Bee-Keepers' Association, and has always been ready to give to others the benefit of his experience.

Being a practical mechanic as well as an apiarist, he has constructed a good many implements for use in the apiary, but has never patented any of them, and a few of them can be seen by looking in the Museum at the office of the AMERICAN BEE JOURNAL.

As I have intimated before, Mrs. Hains is a practical bee-keeper also, which fact, no doubt, has helped to make the management of bees a success at Welcome Apiary. They put 109 colonies into winter quarters, which came through with a loss of but one.

Nashua, Iowa, Convention.—H. L. Rouse, of Ionia, Iowa, the Secretary, sends this condensed report of the meeting:

The Nashua Bee-Keepers' Association met in the Council Rooms at Nashua, Iowa, on May 19, 1888, as per adjournment on Feb. 18, 1888. Owing to the bad condition of the roads, and the busy time of the year, very few members were present. The past winter and spring has been very disastrous to the interests of bee-keeping in this locality. As near as could be estimated from the meager reports, the loss has been fully 50 per cent. A good many colonies have spring dwindled. Some have reported cases of laying workers. One method suggested to get rid of laying workers was this : Set a new hive in the place of the old one ; put in a comb containing brood in all stages, then shake the bees on the ground, and let them hunt ther home.

After some discussion of various topics connected with bee-keeping, the meeting adjourned.

The season is very backward here for this time of the year. Scarcely any corn has been planted yet. Dandelions are just in bloom. Fruit bloom will quickly follow. There has been but very few days up to May 16, that bees could work to advantage, and as a result brood-rearing has advanced slowly. I had several cases this spring where the old bees died off faster than the young bees hatched out, and the colony vanished like a dream. There seems to be a general complaint among bee-keepers this spring about finding more queenless colonies than common. We have had an abundance of rain. The prospect for white clover is quite good. I have received a package of the Chapman honey-plant seed ; planted it in April, but it has not come up very well yet.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

QUERIES & REPLIES.

Is Newly-Made Foundation More Acceptable than when Older?

Written for the American Bee Journal

Query 548.—1. Will foundation one or two years old be drawn out by the bees as quickly and satisfactorily as newly-made foundation? 2. If not, is there any process by which it can be renewed so as to make it as good as newly-made foundation? 3. Will it pay to use old foundation?—Indiana.

1. My experience says it will. 3. Just as well new.—G. M. DOOLITTLE.

1. Yes. 2. Steaming it slightly will soften it. 3. Yes, undoubtedly, if not dirty.—DADANT & SON.

1. No. 2. Put it in hot water. 3. Yes, I use it without doing anything to it.—C. C. MILLER.

1. Yes, nearly. 2. It is claimed that softening foundation with warm water makes it "good as new." 3. Yes.—R. L. TAYLOR.

2. If softened by dipping in warm water before using, it will work satisfactorily. 3. Yes.—A. B. MASON.

1. Yes. 2 Dip it in warm water, or place it in the sun for a few moments. 3. Yes. H. D. CUTTING.

1. Not quite. 2. Steam it. 3. Yes, if not too old.— J. M. HAMBAUGH.

1. There is little if any difference. This is answer enough for all the questions.—JAMES HEDDON.

If old foundation is placed in hot water for a few minutes it will become just as good as new. and the bees will work it out just as well.—P.L. VIALLON.

1. I have observed very little difference. 2. If heated until quite soft, either by dipping it in hot water, or by exposing it to a temperature of 100° or more, it will be as good as new.—M. MAHIN.

1. Yes, if your foundation is all right in the first place. 3. Yes. I have used foundation two years old, and could see no difference between it and that freshly made.—MRS. L. HARRISON.

Old foundation becomes hard by atmospheric influence, but can be "annealed," so to speak, by exposing it to a warm sun sufficient to soften it.—J. P. H. BROWN.

Yes, if softened, I think it will. I always use foundation. If the colony is not very strong, I warm the foundation so as to have it soft.—A. J. COOK.

1. That depends much upon how it has been kept. If allowed to freeze, it becomes hard, and is worked out by the bees slowly. But if kept in a warm room it remains soft and pliable, and I doubt if age injures it, if it is put in a tight box with papers between the ayers.—G. L. TINKER.

1. There is but little difference. 2. It can be dipped in warm water to freshen it, but I do not think it is necessary, as the bees clustering on it will render it pliable. 3. Yes.—C. H. DIBBERN.

1. If the wax is not injured in the manufacture of foundation, age does not affect it. 2. The heat of the hive will "renew it," all that is necessary. 3. Yes, it will. I prefer new foundation because it is apt to be cleaner than old.—J. M. SHUCK.

1. If it has been kept closely packed in a box it is as good as any, but if it has been exposed to the air it becomes dry and hard. 2. If the foundation has become dry and hard it can be renewed by soaking it in warm water, sweetened with honey. 3. It pays me. —G. W. DEMAREE.

1. I have found no trouble in using it. 2. Warming it slightly is said to improve it, but I have not found any material difference in so doing. 3. It certainly does with myself.—J.E. POND.

1. I cannot say from verified experiment, but have used more or less of it, thinking (whether true or not, I cannot say) that when the temperature is right for working wax it would be utilized just the same.—E. SECOR.

1. Yes; if it has been properly kept in a box, it will be just as good as that just made. 2. If it has been exposed to the air, and become hard, dipping it in hot water or placing it in the sun will soften it. 3. Yes.—THE EDITOR.

Purity of Drones from a Mismated Queen.

Written for the American Bee Journal.

Query 549.—1. If the drone progeny of a pure Italian queen that has mated with a pure drone of the German variety, is as pure as its mother, why is not the agamic progeny of a pure Italian queen as capable of performing the functions of the male in fecundation, as one from a fecundated queen? 2. Will the drones of a pure black queen, that has mated with a pure Italian drone, display evidence of Italian lineage or *markings*?—L.

1. It is. 2. No.—DADANT & SON.

1. They are. 2. No.—JAMES HEDDON.

Please ask "the Professor."—H. D. CUTTING.

1. Oh, dear! I wish I knew. 2. Yes. —A. B. MASON.

1. Give me something easier. 2. No. —MRS. L. HARRISON.

I will leave this for expert queen-breeders to answer.—C. H. DIBBERN.

1. That is the question, Why are they not? Who knows? 2. I think not.—J. M. HAMBAUGH.

I I suppose it is as capable if reared under as favorable circumstances. 2. No.—R. L. TAYLOR.

1. I think that it is. Do you know that it is not? 2. They do not in our apiary.—A. J. COOK.

1. Send 15 cents to the editor of the AMERICAN BEE JOURNAL, and he will send you "Dzierzon's Theory." 2. I never could detect any.—P.L. VIALLON.

1. Such progeny is, if developed under as favorable conditions as the drones of a fecundated queen. 2. I have never found any such display.— J. P. H. BROWN.

1. Has it been fully proven that what you assume to be true in the latter part of your subjunctive proposition *is* true? 2. I do not know from actual observation.—EUGENE SECOR.

I have not had experience enough along that line to entitle me to any decided opinions. I think, however, that drones from a mismated queen are not exactly pure.—G M.DOOLITTLE.

All that is known of this matter has been pretty thoroughly discussed in the books and bee-papers. I have nothing new, startling, or even plausible to add to what has already been iterated and reiterated.—J. M. SHUCK.

1. Isn't she? 2. I would like to look in your face before answering. If you are common every-day folks, I answer "no:" if you are not a bee-keeper but a theorist, I answer "certainly."—C. C. MILLER.

This question opens up a subject too immense to be treated satisfactorily in this department. Read "Dzierzon's Theory," and judge for yourself. Any answer will only be theoretical, and I differ from many in my views upon the question.—J. E. POND.

1. I believe the drone progeny of a virgin queen or of a laying worker reared in drone cells as capable of fecundating queens as any other drones. Any egg from a laying worker will produce as large and perfect a drone as one from a fecundated queen, if it has the same treatment. 2. No.—M. MAHIN.

All that I have been able to demonstrate by practical experiments results in this conclusion, to my mind, viz: 1. Virgin queens produce drones without the agency of the male. I have demonstrated this by repeated experiments. 2. Drones that are the progeny of a virgin queen, are impotent, and not capable of propagation. The peculiarity of the spring seasons in my locality has given me the opportunity to test this matter, and drones of virgin queens have failed to mate with the young queens in every case under my observation.—G. W. DEMAREE.

1. That is a pertinent question bearing on the Dzierzon theory. If the mating drone affects or changes the habits and instincts of the queen, as

we know,it would certainly be remarkable if her drone progeny was not also affected, and if their virility is affected, they cannot be pure. Many experiments have proved that the drones of agamic queens do not possess virility. 2. No; but their subsequent progeny will.—G. L. TINKER.

These questions involve propositions and theories too profound for ordinary persons. When the most learned professors disagree on such theories, what can be settled by the mere "conclusions" of those who have not made it a life-work to study the anatomy and physiology of bees? The whole thing is but speculation. But to answer the question: I. I *think* it is, if properly developed. 2. No, so far as I have been able to observe and form an opinion.—THE EDITOR.

JUNE ROSES.

O, sing of the roses,
The beautiful roses,
Adorning the warm, pulsing bosom of June.
Exult in their sweetness,
Extol their completeness,
And only lament they must perish so soon.

Then sing of the roses,
The beautiful roses,
Or scentless, or filling the air with perfume,
They lessen our sadness,
They bring to us gladness,
These roses that gem the fond bosom of June.

—*Vick's Magazine for June.*

CORRESPONDENCE.

EXPERIMENTS.

Showing of what Nature's Bee-Hives Consist.

Written for the American Bee Journal
BY G. M. DOOLITTLE.

By the replies to Query 525, I see it is supposed that either a fool asked it, or else some one had a practical object in view. Well, in answering it I see but one idea of the querist, and that was to get at facts.

Since answering it, I have been conducting some experiments, as I had also before, and I have arrived at the conclusion that much of the teachings of the past have been erroneous—in part, at least.

We have been taught that the bees heat a hive on the same plan that a fire in a stove heats a house. In which case, all know that the room where the fire is, is the warmest at the top.

Following out this thought, Mr. Dadant, on page 247, tells us that "the bees will be enabled to warm about 6 inches in depth since the warmth always rises," and by a process of reasoning, arrives at the conclusion that a broad flat-toped hive is not as good for bees in early spring as a tall, narrow one would be.

Again, on page 107 we find Mr. Heddon adopting the same line of reasoning, to prove that by putting one empty brood-case of his new hive under one already filled with brood, that brood is in "the warmest part of the hive." Now, if Mr. Heddon is correct in this part of the matter, he is certainly incorrect in his reply to the above query, for bees are most active in the early spring where the heat is the greatest; yet he answers, "At the bottom, usually." On page 107, he tells us that "the direction which the queen naturally breeds," is "downward," which goes to prove that his reply to the query was right, and his conclusions on page 107 wrong.

Without trying to decide for these gentlemen which are right, or trying to reconcile Mr. Heddon's statements, I will give some of the things I have found out by my experiments, and leave the reader to follow out the "pointers," and arrive at his own conclusions.

A few years ago Mr. Betsinger was at my house, and he asked the same question that the querist asked on page 182. I replied to it as did most of those answering the query, that the bees were the most active at the top of the cluster, but Mr. Betsinger said I was wrong.

Accordingly, to prove my position, the next morning, while there was still a frost on the ground, I carefully lifted the quilt from over the cluster of a fair colony of bees, and found that they were very quiet, stirring but little more than they would have done had I so looked at them in mid-winter. I now carefully put back the quilt, and raised the hive at the bottom, and much to my surprise I found them at this point ready to resent an intrusion, flying out at the least disturbance. Thinking that I had aroused them, by first lifting the quilt, I went to another hive and raised this from the bottom first, when I found them just as lively there as the others had been, and upon lowering the hive and raising the quilt, they were in the same sluggish state at the top that those were in the first hive.

Without dwelling longer, except to state that hundreds of trials have resulted the same as the first, I am led to believe that the warmest part of the hive, as we reason from our fire-heated rooms, has little if anything to do with our bees. While the hive may help a little along the line of keeping the bees warm, yet the main reason for a hive is to protect the bees from the storms of wind, rain and snow which our climate is subject to, for bees cannot stand cold of any amount while wet.

Bees are natives of a warm climate, and in their native home they frequently do not seek any hive at all, but build their combs on the limb of a tree, or on the under side of some flat surface, in which case the bees themselves form the hive,properly speaking.

To illustrate: If we hive a natural swarm of bees in a large box, and closely watch them work, we find that they suspend themselves from the top in a compact form, appearing like an inverted cone, which, to all appearances, is nearly motionless, so that it will appear as if the bees were idle, while the fact is, that these apparently idle bees are really the hive proper, and inside of this, active work is going on, building comb, etc. This is easily seen by passing a wire suddenly through the cluster horizontally, and letting the lower half drop.

Outside this living hive or crust of bees, the temperature is often not more than 50°, while just inside they are working wax nicely with from 90° to 95° of heat, as I have found by several carefully conducted experiments with a self-registering thermometer. As the combs grow, this crust of bees expand until they touch the hive, when it gives away at that point to a large extent, letting the hive there form the crust, but were the hive not there the crust of bees would still hold their position, so that, as I said before, the hive helps a little, but this only in the heat of summer, where a hive of the size of 2,000 cubic inches is used; for as fall comes on, the bees contract and form the crust, or "nature's hive" again, thus to remain until the next summer, unless the hive is contracted by man.

But more closely to the point: In 1874 I had a colony of just 82 bees, and the queen by actual count, on the 1st day of June, which was the remnant of a once populous colony. These few bees I decided to leave without help to see what they could do. They had a few cells of brood in the center of one side of two combs, as they were not strong enough to enclose one comb. On cool mornings it was a curious sight to peer down through that range between the combs which they occupied, and see the points of their abdomens all turned in an outward direction, and closely packed together, so as to keep up the necessary 85° to 90° of heat for brood-rearing, yet they did it through day after day of weather too cool for bees to fly, while at night it was nearly freezing several times.

Well, not to dwell longer on this point, they increased their brood, so that by July they had brood in three combs, while so far they did not touch the hive at any point, and, as I firmly believe, kept the heat all in the cluster, and not in the top of the hive. They increased to a fine colony in the last

half of August, and gave me about 5 pounds of box-honey, besides enough to winter on, all made from the outcome of that little handful of bees, in the centre of a hive, only contracted to five combs at the time they were the smallest, if I remember correctly.

Any one can prove the correctness of the foregoing by placing their hand on the quilts over different hives on a cool morning in May. Where the cluster comes up so as to break the crust of bees on the quilt, it will feel quite warm at that point, but all around this place the quilt will be cold; which certainly proves that the heat is not all in the top of the hive, but kept by the bees in the cluster.

If the above is correct, then the only contraction that amounts to anything is that close contraction that forces the bees to touch the hive at all points.

Borodino, N. Y.

DRONES.

Objects and Work of Queens, Workers and Drones.

Written for the American Bee Journal

BY E. GERRY.

Bees are divided into three classes. Each has a special duty to perform. They are created and constituted to be happy, and enjoy the lobor allotted to them.

The absence of either class would ruin the colony. The queen is the mother, and produces the eggs from which all the bees are hatched. She is especially adapted to fill the place she occupies, and is so organized that she is able to produce either male or female. If she desires to lay an egg that will produce a male, she will deposit the egg in a large cell (drone-cell); if a female, she will lay the egg in a small cell (worker-cell). The sex depends upon the size of the cell in which she deposits the egg, if she has been properly matured, or has not become barren or injured.

There is another class of females that have become dwarfed in size by being allowed to remain in a small cell insufficient for the growth of a perfect female, consequently the genitive organs become contracted, and the desire for copulation destroyed; hence they never mature, and are rendered imperfect. Their nature and desires are changed, thus their duties are different from a perfect female or queen. This is a wise freak in the development of the female. The larvæ, when not more than a day or two old, is taken from the small cell and placed in a large cell made for the queen, and supplied with a kind of food to produce a fully developed female or queen, while the dwarfed female or worker bee is allowed to remain in the small cell; otherwise they would all be queens, and deadily enemies to each other, and would be destroyed; but as it is now arranged, their desire is to gather stores for the support of the colony, and they are friends.

The third class is the male bee (or drone), from the peculiar adaptation of his duty. He was created with a lazy, indolent disposition, that he might be contented to remain in the hive, to generate the animal heat, to hatch the larvæ, and dry down the nectar (gathered by the workers) to honey. Had he the same industrious disposition of the workes there would be none to remain in the hive, and the consequence would be there would be no young bees hatched, and the nectar would sour, and the whole colony go to ruin. Is this a good reason why the drones should be left alone to the entire management of the bees? It is wrong, in my opinion, to interfere with the drones only for breeding purposes. If we wish to rear queens from the choicest colonies of bees, we should remove the best queen from a prosperous colony, and start another colony with her, and then the bees from which the queen was taken, will at once rear several queen-cells; and the queens should all be properly cared for. When the young queens have hatched it is better to shut in all the drones except those from your best colony, which would give a better chance for the young queens to be mated with choice select drones, and after the queens are mated, let the drones fly as usual.

Where there are more drones than workers, it is evident that the queen has been injured, or is about to become barren. The bees understand when they have no need for the drones, and will dispose of them in due time.

Lummi, Wash. Ter.

LEARNING.

The Experience of a Beginner in Bee-Keeping.

Read at the Rockford, Ills., Convention

BY MR. HERRICK.

The experience of a beginner in bee-keeping is a succession of surpsises. For in this, more than in any other avocation, does he find that the reality ss almost the opposite to what he anticipated.

For example, he watches an experienced apiarist go into the top of a tall tree, and cut off a limb on which is clustered a swarm of bees, and carry it safely to the ground, and hive the bees. He thinks that it is a very simple and easy thing to do; and so it is. But a few days later, when he essays to hive a swarm that he finds on one of his apple trees, and he becomes the chief actor instead of the spectator standing at a safe distance, the thing appears very different to him. He sees from a different standpoint. On the topmost round of the ladder, balancing himself with his knee against a limb, both arms extended, holding the limb on which the bees are clustered, with one hand, and sawing it off with the other, his muscles quivering, the sweat pouring down his face, the bees buzzing inconveniently near his eyes, what wonder if, on attempting to go down the ladder, his eyes fixed on the cluster of bees, he makes a mis-step, and, "Jack-and-Jill" fashion, "tumbles down and cracks his crown," and the bees come buzzing after.

Then, again, he watches an experienced bee-keeper open up a hive, take out the frames and look them over, cutting out a queen-cell here and a patch of drone-comb there, and he thinks the old man's slow and deliberate movements are due to the infirmities of age; and he goes home full of conceit of what he can do with his bees, and how much more quickly he can do it. But after several attempts he begins to learn that old adage, "the more haste, the less speed." I do not know of anything that will knock the conceit out of a man quicker than to find himself face to face with a colony of excited bees; compelled to move very deliberately while the bees are doing just the opposite, and having it all their own way with him. I know how it is, for I have been there myself.

And here let me say to my young bee-keeping friends, pay no attention to what old bee-keepers say about never using gloves or a veil when manipulating bees. I do not doubt their word in the least, for a good, honest, old bee-keeper is like little George Washington, he cannot tell a lie. But all the same I know it is perfectly safe to wear gloves and a veil. If you are at all nervous, as most young bee-keepers will be, these articles will reassure you; and in any case will prevent many a sting. I do not, on any account, wish to intimate that you would care for a few stings, but, you know, it kills the bee.

But there are many experiences about bee-keeping that are really pleasant. It is pleasant to watch them in early spring, and learn their ways and methods. Later on it is pleasant to supply them with needed surplus storage. It is also pleasant, during the honey flow, to note, from day to day, the increase of honey in

the sections. It is pleasant to take off large amounts of honey from each hive and sell it for a good round price. And I presume all will agree that it is pleasant to eat it, providing you do not eat too much at a time. In fact, when you and the bees become good friends, it is all pleasant.

But the writer has to acknowledge that he has not progressed so far as that yet. His bees are the black variety, and do not seem inclined to cultivate the acquaintance of any one "not in their set." And here I am led to say that bee-keeping calls for a great deal of patience, of perseverance, and of earnest study, as well as close watchfulness, for there is no telling when they will not do some absurd thing or other.

The first summer that I kept bees, I hived a swarm on frames filled with foundation, and they seemed satisfied, and went to work. In a short time the hive was filled with honey and brood. And then came the *strange* part of it. They suddenly left the new hive and went back to the parent hive. They were soon driven out, and they clustered on the limb of a tree. I put them back into their own hive, but they were soon out again. I then put them into another new hive, when they were satisfied and went to work. Now I have not the slightest idea what caused those bees to desert their hive. Perhaps some of the older bee-keepers present can tell us why it was.

While speaking of my own experience, it might not be out of place to mention the experience of the past season. In the spring 14 colonies came out of the cellar in fine condition. Plans were made for extending the business by natural increase and by purchase; and 40 new hives were made, also 50 surplus cases, 3,000 sections, 50 pounds of foundation purchased, and a large stock of enthusiasm and hopeful anticipation was on hand.

Result: Three new colonies, one by increase and one by purchase, all of which had to be nursed all summer to keep them alive. One pound and 6 ounces of very dark surplus honey, probably put in the boxes for sale because not fit for home consumption, and even that taken in exchange for 140 pounds of sugar fed to them to give them a ghost of a chance to live through the winter. It being then a "glorious uncertainty" whether any would live through, to thank me for my efforts in their behalf.

But the one who is really determined to make a success of bee-keeping, will not allow such an experience as that of last season to cool his enthusiasm. Rather, he will make it a useful lesson. And he will go on, with a level head, learning all he can about bees. He will take at least one first-class bee-paper, and thus get the experience and observations of eminent apiarists. Then, too, he will study his own bees. He will have an observation hive, and will spend his leisure moments watching them in their varied work. Thus verifying the experience of others, and making it his own as well. He need not be afraid of exhausting the subject. Many very intelligent men have made it their life study, and yet, all of them combined, have been unable, as yet, to learn one-half of what there is to know.

For myself, after two years' study, I am amazed at the little I have learned, and the much there is yet to learn. Aside from the petty annoyances attending the handling of bees, it is a delightful study; and the more one learns, the more eager is he to learn still more.

DWINDLING.

How the Bees have Wintered—Spring Dwindling, etc.

Written for the American Bee Journal

BY J. M. HAMBAUGH.

In the latter part of September, 1887, I prepared 65 colonies of bees in large Dadant hives for wintering on the summer stands, as follows: Each hive was carried into a bee-tight room, and where there was not fully 30 pounds of honey in the hive, combs filled with honey from other colonies were given, keeping the combs with brood in them to the centre as near as possible, removing all surplus combs from the sides, and inserting a division-board on each side. I then placed ⅜ of an inch strips crosswise over the tops of the brood-frames, over which I spread burlap sacking. The intervening space between the division-boards and the sides of the hive was then packed with dry hard-maple leaves, and the lid filled full of the same. This, you will perceive, is a very simple and inexpensive preparation.

Out of the 65 colonies all came through the winter but two; one of which fell into a thief's hands, who stole the two center combs, leaving the poor bees exposed, and of course they died. The 63 colonies are now in excellent condition, generally speaking. Tally one more for the large hives as a success for out-door wintering.

I prepared 95 colonies at home for cellar wintering by simply preparing them with, as I supposed, an abundance of natural stores, weighing each hive, and giving from 20 to 40 pounds of honey, net, to each colony. From Nov. 19 to 21, they were put into the cellar. In consequence of showing diarrhetic symptoms, I placed them upon the summer stands on March 1. Every colony was alive at that time, but they spring dwindled, until at present I can boast of but 81 colonies—a loss of 14.

Another notable feature is the finding of 7 queenless colonies. While out of the 63 colonies at the Vandeventer apiary, only two were found to be queenless. At the time of placing the bees upon the summer stands, the consumption of honey was very little, but they drew heavily upon their stores during the spring, and quite a number had to be fed.

Mr. Heddon says on page 267, that his tabulated report "gives sufficient reply to the criticisms of Messrs. Hambaugh and Dadant on page 199," and that "those reports settle the question of its merits, etc." Mr. Newman has clearly shown our failings wherein he states, "Our hives are like our wives and babies—each of us think ours the best." If this be true, what does the table amount to, and how are we to get at the superiority of one hive over another, only in the actual work done in the field. A speed-horse must not be declared the winner until he has actually run the race, and gained it by honest work. So with bee-hives, when any disinterested parties will show the actual work of the small hives of any pattern to exceed financially those of large ones, we will cease to exalt the virtues of the large hives, and adopt the small, be they of the single or divisible brood-chamber pattern. We want the hive that will produce the *most money*.

Spring, Ills., May 21, 1888.

NEBRASKA.

The Bee-Pasturage of the State, and the Time of Blooming.

Written for the American Bee Journal

BY GEO. GALE.

While Nebraska is deficient in the chief honey-plants of the States further east, such as white clover, basswood, etc., we have in the southeastern portion of the State an abundance of plants in their season, producing a moderate, and sometimes an abundant flow of nectar throughout the whole season.

We are, of course, subject to drouth the same as other countries, but not more so than the States east of the Mississippi; but as we are not dependent upon one or two species for our honey crop, it must be a very poor season indeed if we suffer an entire failure. The two seasons of 1886 and 1887 were the poorest seasons for bees

known since bees have been kept here. During these two seasons bees kept within a mile or so of the streams, have made a living and some increase, and in some instances some surplus has been secured, while those out on the prairie, distant from timber, fared very badly; many colonies, even of Italians, starving to death during the summer.

The following list of honey-plants of southeastern Nebraska is made by me, after a residence here of nearly 30 years, and a pretty thorough study of the botany of the district. I have omitted some species that are abundant in the bluffs of the Missouri river, and are common in the States eastward, but are rare or absent in other parts of Nebraska. This list includes very few plants except natives, as very little has been done by way of planting for the bees. This list furnishes a continuous succession of bloom (in favorable seasons) from the last of March until frost or stormy weather closes the season in October.

The first pollen is gathered from soft maple (*Acer rubra*), followed closely by white elm, red elm, cottonwood, several species of willow, box-elder, white ash, gooseberry, wild plum (*Prunus chicasa*), dandelion (in some places), apple and cherry, choke-cherry, burr-oak, hickory (*Carya amara*), black and red raspberry, wild grapes (*Vitis cordifolia*), black locust (in a few places), and honey locust.

This brings us up to the first of June in average seasons. Very few of these, perhaps, furnish much nectar except the gooseberries and other bloom (in favorable seasons), but all produce pollen in great abundance; and if the weather is favorable for it, and the bees have plenty of honey in their hives, they build up very rapidly, and are now ready to swarm, or have already commenced. From now on we may expect some surplus, provided the bees do not over-swarm, and now is the time to put on the surplus cases to prevent it.

The honey-locust ought to, and in favorable seasons will furnish some surplus. So will the hackberry, Virginian-creeper (*Ampelosis quinquefolia*), and a small species of willow that blooms about this time, on which the bees work for several days to the neglect of everything else.

Sumac (*Rhus glabra*), common milkweed, pleurisy-root or butterfly weed, and later several other species of *Asclepias* furnish nectar in great abundance. In some seasons of good quality, in others not so good. There is so little white clover away from the Missouri river that the bees scarcely notice it, and as a source of honey it amounts to very little. Catnip, motherwort, buckberry (*Symphoricarpus*), and some seasons partridge-pea (*Cassia Chamæcrista*) all bloom now, and later, two species of wild cucumber bloom for a long time, and all yield surplus of excellent quality, and in great abundance.

About the last of July or first of August, the plant incorrectly named heart's-ease begins to bloom. This plant (which is a *Polygonum*, while heart's-ease is a violet) is in some seasons the principal source of our surplus honey, and in others it is scarcely visited by the bees. It grows in all open waste places, in stubble fields after harvest, and particularly luxuriant in neglected corn fields. This plant may fairly be considered our best honey plant, and as it always comes whether wanted or not, and blooms at the same time, and yields honey under the same conditions of weather that buckwheat does, and yields a much better quality of honey than buckwheat. It does not pay to sow buckwheat, as it is too uncertain a crop to sow for the grain.

Of fall flowers yielding honey we have several species of asters. One with purple flowers must yield considerable honey, as it is much frequented by the bees from September until severe frost. These, with a species of *Eupatorium*, and one of *Coreopsis* are all the species of *Compositae* that I think are used to any great extent by the bees. The golden-rods that are so highly prized in some localities are scarcely visited by the bees, and the same may be said of the many species of sun-flowers that brighten our landscapes through the autumn months.

The species that I have mentioned comprise the bulk of the honey-plants of southeastern Nebraska, though I have omitted some that in some localities and in some seasons undoubtedly yield some honey. In some instances the plants themselves do not occur in sufficient numbers to be of economic importance, while in others though plentiful, they are little sought by the bees.

Of all the great wealth and variety of bloom that covers and beautfies our wild prairies from May until November, including at least 15 species of *Leguminosae*, and more than that number of *Compositae*, not one, so far as I have been able to discover after years of close observation, are of any value as honey-plants. Our honey-producing plants grow in and around the margins of the timber, on the streams, or in the sloughs for short distances from timber, and in fields and waste places on farms. There is one plant growing in patches about the margins of the timber, and in sloughs near the creeks, that as a honey-*producer* probably surpasses any other plant in this portion of Nebraska, but on account of its peculiar habit of blooming, it is of very little value as a source of honey. The plant I refer to is *Glauca biennis*, of the evening primrose family. It blooms from the latter part of August until hard frost, and blooms in the evening after the bees have all gone home, and the flowers wither and dry up in the morning usually before it is warm enough for the bees to fly. The flowers secrete nectar in great abundance; sufficient in some observed instances to flow down the sliles and hang in drops on the stigmas.

As some of the readers of the AMERICAN BEE JOURNAL may contemplate a removal to Nebraska, I will add a few words on bee-keeping in Nebraska. There are very few large apiaries here, though quite a large number of persons keep a few colonies—from one to a dozen, and a few as high as 30 or 40—but I do not think that large apiaries would be profitable except *possibly* on the Missouri river, where there is plenty of white clover and some basswood.

I think that the country might be very easily overstocked, as nearly all the honey must be gathered along the streams. The high winds which prevail here through a great part of the honey season greatly interferes with the gathering of honey, and must at times totally prevent long flights in search of stores. While as I have said large apiaries might not be profitable, a few colonies in connection with some other business, and properly cared for, might pay well for the trouble. All kinds of hives are used here, though I know but one man that uses the old box-hive, and he never gets any surplus honey, but depends for his supply of honey on some of his colonies dying out in the winter, leaving him a legacy of dirty honey mixed with bee-bread and moth larvæ.

Artificial pasturage for bees has not yet been provided to any great extent. Some few have sown a little white and Alsike clovers. The Alsike has not so far proved a success, and the white clover is disliked for pasture on account of its causing horses to slobber, and is thought to be too insignificant for a meadow-grass, still the bee-keepers are sowing some, and it is spreading, and will be plenty in time; but neither white nor Alsike clover if cut for hay, will be of much value for honey.

Some have sown mustard, catnip and motherwort in waste places, with much satisfaction, but it is doubtful if it will pay to use good farm land for any crop that is only good for honey. My opinion is that if any plant will pay for good land, catnip and motherwort

will. It will seed itself after the first sowing, and is in bloom from July until frost, and during this time no day passes when the bees can work but that they work on it, whatever other plants may bloom at the same time; but as to the quality of the honey I cannot say, as we have never had it unmixed, but I hope it is better than the white sage honey of California, which I do not like.

Adams, Nebr.

TRULY GREAT.

A Visit from the Father of Practical Apiculture.

Written for the American Bee Journal

BY JAMES HEDDON.

I cannot convey to the minds of my brother bee-keepers the enjoyment which my family and myself experienced from the four weeks visit with Father Langstroth, which I shall always remember as an honor, and with the greatest pleasure.

I may say that prior to this time, and owing perhaps to his ill-health, I had had but little correspondence with him, always considering it a duty never to write to him except in answer to his letters. I had met him once in Detroit and in Chicago amid the rush and confusion of conventions, but knew so little of his character, that I believe what I am about to say will be interesting to the thousands of bee-keepers who have reaped rich rewards from his life work.

Nearing 80 years of age, and not in the enjoyment of very robust physical health, I was astonished to find his mental powers as young and vigorous as those of a man of middle age. Indeed, it was a rare treat to converse upon our favorite topic with the man whose clear, practical mind had transformed bee-owning into commercial honey-producing. Together we traversed the past in the field of apiculture, and never was I more interested and edified than in listening to his description of the early days of practical apiculture in this country, as well as to his trials in the introduction and defense of his own invention.

Twice while here he preached in the Congregational church, and I think I may safely say that many years have passed since our city has been honored with such beneficent and well-delivered sermons. His voice is round, full and melodious, fully equal to four times the capacity of any church in the city, and this, together with his impressive manner and kind, moral utterances, caused many wet eyes in his large audiences, and created very much favorable comment among our church-going people.

His perfectly honest, sincere and kindly spirit sheds rays of sunshine over every household he enters, and while all regret his departure when the time for leaving comes, they rejoice in the effects of his presence while with them.

Thus I found him whom we bee-keepers have learned to love, and regard as our benefactor, a very exceptional and great man, entirely outside of his greatness as an apicultural inventor. I thank him for what he has written regarding my late invention; not for the facts which he has stated, for these were compelled convictions, but for the labor and pains which he took in gathering in and publishing to the public the important truths which his article contains, but I feel it my duty to make clear the fact that my own invention, and my knowledge of bee-culture which led to it, never could have been, but for his own of 37 years ago.

Before we can learn the conditions of the interior of a hive by outward symptoms, we must be able to dissect its interior, comparing these outward symptoms with its internal conditions. Father Langstroth's hive was the first ever constructed which made it practicable for the honey-producer to do this. Now we have learned to almost instantly determine internal conditions by outward symptoms, and this and the invention of comb foundation, giving us uniform combs, led to the first functional improvement of any importance in hives which has been made since Father Langstroth's, in 1851. The improvements which have have been made have all been in the nature of detail mechanical construction; new and improved clothing for the better carrying out of the construction of Father Langstroth's great invention.

Dowagiac, Mich.

BEGINNERS.

A Few Seasonable Hints to the Inexperienced.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

It is poor policy for beginners to purchase bees in boxes and barrels, as transferring is not the best kind of work for a novice. Better buy a good colony or two, not more, of Italians in a movable-frame hive. The Langstroth frame is to be preferred for this reason, that two-thirds of the scientific bee-keepers use this frame, and bees sell better in hives where this frame is used. Every hive in an apiary should be exactly alike, so that every cover, frame, etc., can be mixed up and all fit when put together. Better choose a hive first, and not get a half a dozen different ones to see which is preferable.

Bees can be shipped long distances on the cars without injury, if packed correctly. I obtained my first lot of bees from Wisconsin, and the bottom-bars of the frames were placed in a board ⌐⌴⌐⌴ notched so that they not strike against each other. If the frames of a hive have not been removed this spring, this is not necessary, as they are fastened securely with propolis. Bees in transit need air, which can be admitted through wire-gauze, nailed over their fly entrance.

Persons who only do work by halves should never fix up bees for transportation, either by rail or wagon, for disaster will certainly follow. Bees that were sent off by a prominent bee-keeper were three weeks knocking about on the cars before reaching their destination, and arrived in good condition. In this case several thicknesses of woolen blanket were wrung out of water and spread over the frames. This served to keep them cool, and to furnish water. Bees should be fastened in their hives, when they are all in, or those loose in the air may follow and be very annoying. A man who moved his bees sixty miles in the cars, and traveled with them, told me that every time the train stopped a bee would fly in that appeared to follow them all the way. And when hives are moved in wagons these loose bees might follow and sting the horses. Night is the best time to fasten up a hive, as bees leave very early when the weather is warm.

When I ship bees I cut wire gauze and fit it into the entrance of an empty hive, by putting in the gauze and driving in a piece of wood which fits exactly. This gauze is then of the fit, and can be quickly slipped over the fly entrance and fastened along the edges by placing litile strips of wood over them, and nailing. New muslin is spread over the frames, and a perforated board nailed on. The perforations serve to admit air, and to help to keep them cool.

Success in bee-culture is attained only by the faithful performance of many little items. Some persons never have any "luck" with bees, why? One year the moths destroyed them, and another season the swarms left while the hives were being made ready, washed with apple-tree leaves and salt. A person who expects to make a success in bee-culture must study their lessons well, learn the habits of these industrious insects and their wants, and supply them. Last year the honey crop was an almost

complete failure, owing to the severe drouth, and many colonies at present have not a day's ration ahead. Let there be a long continued cold siorm, and bees in this condition must starve. Their owner must know their condition, and this is one of the good things of the movable-frame hive. Bees consume stores very fast in the spring, because of their rearing so much brood. Scientists tell us that an insect in its larvæ state consumes more food than during the remainder of its life. If a colony is short of honey, the best way to supply it is to remove as quietly as possible an empty frame, and insert a full one in its place. Where no frames of honey are obtainable, feed syrup made of any kind of sugar when bees are flying. Little wooden butter dishes make good feeders, as bees cling to their sides and never drown as they do in glass or earthenware, unless filled with cut straw or shavings. This spring I fed a lazy man's way—tied cheese cloth over large pans of syrup, and fed in the open air. When the syrup was lowered so that the bees could not reach it, I push the muslin down upon the surface so they could.

Peoria, Ills.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Aug. 3. Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Very Promising Prospects.—E. Liston, of Virgil City, Md., on May 25, 1888, writes:

Bees are just booming from honey-dew. The persimmons will be in bloom in a few days. The weather is warm and showery. The prospects were never more promising. It makes us all feel happy to hear the music they make; particularly so after having a total failure last year.

Bees Working on Early Raspberries.—Daniel Shank, Clayton, Ills., on May 24, 1888, writes:

While not extensively in bee-culture, yet I make it a side-issue. I have 16 colonies in box-hives. I have bought Langstroth-Simplicity hives for my swarms. I have read the AMERICAN BEE JOURNAL for two years, and I like it very much. I was on my farm yesterday, and found the raspberries blooming; that is the early kind. I have fruited the Shaffer colossal for three years, and find them grand for fruit and honey, as they bloom later than any other raspberry. Every bee-keeper should add this berry to his stock. My bees are gathering honey fast now. White clover is scarce, owing to the drouth of last summer.

Quantities of Brood Chilled.—Leslie Stewart, of Jefferson, N. Y., on May 25, 1888, writes:

The weather here is fair at present, but we have had about 3 weeks of wet and cold weather, which has given bees a bad setback, especially the weak ones. It has chilled quite a large quantity of brood, especially in colonies have young Italian queens, as such had more brood than they could cover. I do not think that more than two-thirds of the bees in this section will be able to store any surplus this season. Fruit will be in full bloom in about one week. I find that a colony having a young Italian queen will build up one-third faster than one of the same strength having a black one.

Queen-Bees to Canada.—S. W. Morrison, M. D., of Oxford, Pa., on May 28, 1888, writes as follows:

At the request of the Superintendent of Foreign Mails I have sent two cages containing queens and their attendants "for transmission to the postal authorities of Canada," that they may "see the method of packing bees for transmission through their mails." If satisfactory they will be forwarded to Seaforth, Ont., and queens will be again allowed in the mails. I am confident that the matter will be arranged within the next week, so that queen-bees can again cross the lines in the mails.

Chick-a-Dees Eating Bees.—Martha Smith, of Monroe, Wis., writes as follows on the above subject:

In regard to the chick-a-dees eating bees I will say that it is no uncommon thing here for them to eat dead ones in the manner described by Mr. Evans in this week's BEE JOURNAL. They will eat all they can find on the snow, and will alight on the porticos of the hives and get all at the entrances. Starvation does not cause them to do it, for they act just as bad when there is meat hanging on a tree near the hives. I have never seen them kill a bee, but they annoy them in summer. A chick-a-dee built her nest near the hives, and the bees would chase her from the hives to her nest.

Prospects now Good.—Mr. D. M. Stoler, Saxton, Pa., on May 28, 1888, writes:

The last three weeks have been exceedingly wet and cool, so that the bees could not work half of the time. The prospects are now good for a prosperous season. The loss in this section during the winter, was about 50 per cent.; principally in old-style hives. I wintered my bees on the summer stands, with Hill's device over the frames, with mats and loose wool packing. I put supers on three days ago, when I found the combs well filled with brood and honey.

Bees in Dakota.—Andrew Craig, of Empire, Dakota, on May 21, 1888, writes as follows:

The spring here is unusually backward—cool with too much wind for bees to do well. They gathered no pollen from elms, as is usual; the weather being too cool and windy at the time of its bloom. Cottonwood began to bloom, but was "nipped in the bud" by frost. We have had several frosts in May. On May 16 it snowed without freezing, and on the 17th there was frost and ice ⅛ of an inch thick. It is warmer now, and raining too much for farmers to get in their corn. I put into winter quarters 3 colonies, and all came through, but one was very weak, and was robbed to death by one of the others that was very populous. Had the weather been warmer, so that there would have been nectar to gather, no robbing would have occurred. Mine are the only bees I can hear of in this part of the territory.

Salt.—O. B. Barrows, of Marshalltown, Iowa, writes the following on the uses of salt for bees and berries:

Several years ago the Iowa State Horticultural Society recommended the use of salt for strawberries. I tried it once only. I also tried N. W. McLain's receipt for the stimulation of spring breeding, viz: "Half a pint of dairy salt to 10 pounds of sugar," and I do not think I will ever try it again. Who else has tried it? How do they like it? My bees thought it a good thing to let alone.

Dandelions and Fruit Bloom.—Francis M. Merritt, Andrew, Iowa, on May 30, 1888, wrote thus:

In my article on page 341, I am made to say that the white clover was just blooming, This is a mistake of the printer, for I wrote it "booming" instead of blooming, as the white clover is not in bloom yet. We are passing through a grand harvest of dandelion and fruit bloom. Bees are increasing rapidly.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success."	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

CONVENTION NOTICE.

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.

J. W. BUCHANAN, *Sec.*

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Your Full Address, plainly written is very essential in order to avoid mistakes.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ¼ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck; 20 cents per lb.—by express or freight.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.
HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

DETROIT.

HONEY.—Best white in 1-pound sections, 14@15c. Extracted, 9@10c. Supply decreasing slowly.
BEESWAX.—23c.
May 21. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 15@16c. for best one-lb. sections; other grades are slow, at lower prices. Extracted, 7@8c. Light demand, and supply larger than usual at this season of the year.
BEESWAX.—23c. R. A. BURNETT,
May 1. 161 South Water St.

NEW YORK.

HONEY.—We quota: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c. Market is dull for comb but improving for extracted, of which new from the south is arriving.
BEESWAX—Scarce, 24@27.
May 21. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 4@9c. per lb., for which demand is good. Comb honey, 14@17c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Apr. 23. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.
Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts.; dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Mar 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote for new extracted 6@4½c., as to color and quality. New comb honey 14@10c., as to quality. Arrivals are still small, and demand of a jobbing nature.
BEESWAX.—Scarce, 20@24c.
June 2. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., glassed, 16@17c; unglassed, 17@18c.; and dark 1-lbs., glassed, 15c. unglassed, 16c.; white 2-lbs., glassed, 16c.,; unglassed 2-lbs., 17c. California white 2-lbs., 17c. California extracted in 60-lb. cans, 8c. Market quiet and receipts are larger.
BEESWAX.—No. 1, 20c.; No. 2, 18c.
Mar. 19. CLEMONS, CLOON & CO., cor 4th & Walnut.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street. - CHICAGO, ILLS

TESTED ITALIAN QUEENS, $1 each; untested, 75 cents each; 3 for $2; 12 or more 65 cents each. 75 cents per pound for bees. Albino queens same price.
23Atf **I. R. GOOD,** Nappanee, Ind.
Mention the American Bee Journal.

EXTRA THIN FOUNDATION 40 cts. per pound—job lot—12 square feet to the pound. Write quick to
OLIVER FOSTER,
23A1t MOUNT VERNON, IOWA.
Mention the American Bee Journal.

ALBINO QUEENS. I will furnish pure queens of this gentle and beautiful race of bees in this season at the following prices: Warranted queen, $1.00; tested, $1 50.
JOS. MOSER,
23A1t FESTINA, Winneshiek Co., Iowa.
Mention the American Bee Journal.

THE OLD AND RELIABLE
KNICKERBOCKER BEE-FARM
(ESTABLISHED 1880.)

It will **PAY** you to send for our Circular and Price List of Bees and Queens before ordering elsewhere. Address,
GEO. H. KNICKERBOCKER,
(Box 41) PINE PLAINS,
23D2t Duchess Co., N. Y.
Mention the American Bee Journal.

Canadian Hardy-Working Stock!
NEW BLOOD!

HAVING secured queens from three of our most successful honey-producers (J. B. Hall, S. T. Pettit and Martin Emigh), I am prepared to furnish queens from the above strains, at the following prices: Virgins, 50 cents; untested, $1.00; tested, $2.00; selected, $3.00. Three at one time, deduct 10 per cent. Six at one time, 20 per cent. In ordering, mention which strain you prefer. The last named are pure. The first two, almost pure Italians—all carefully selected for desirable qualities. Sent post-paid. Until postal difficulities between Canada and United States cease, I have arranged to express queens every 10 days to Detroit, from which place they will be sent by mail to American customers. Orders booked in rotation. No queens mailed until July 1 at the above prices.
Address, **R. F. HOLTERMANN,**
Ed. Canadian Honey Producer,
23A8t BRANTFORD, Ont., Canada.
Mention the American Bee Journal.

The Bee-Keepers' Review

FOR MAY is now out. Having regained the time lost during his illness, the editor will hereafter take pride in getting out the REVIEW promptly on the 10th of each month.

The special topic of the present Number is "Hiving Bees." The review of Mr. Cheshire's work, which was begun in the March No., is finished in the present issue. We have a surplus of the Numbers containing this review, and, so long as they last, these three Numbers will be sent free to all who apply.

☞ Price of the REVIEW, **50 cts.** a year.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S or Canadian.

Address, **W. Z. HUTCHINSON,**
20Atf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

NEW ONE-POUND HONEY PAIL.

THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **Price, 75 cents per dozen, or $5.00 per 100.**

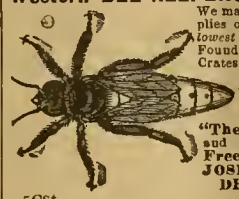
THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO. ILLS.
Mention the American Bee Journal.

HEAD-QUARTERS IN THE SOUTH.
FACTORY OF
BEE HIVES, &C.
Early Nuclei & Italian Queens.

☞ Tenth annual Catalogue now ready.
5Ctf **PAUL L. VIALLON,** Bayou Goula, La.
Mention the American Bee Journal.

My 20th Annual Price-List of Italian, Cyprian Queens and Nuclei Colonies (a specialty); also Supplies—will be sent to all who send their names and addresses.
H. H. BROWN,
18C3t LIGHT STREET, Columbia Co., PA.
Mention the American Bee Journal.

Western BEE-KEEPERS' Supply Factory.



We manufacture Bee-Keepers' supplies of all kinds, *best quality at lowest prices.* Hives, Sections, Foundation, Extractors, Smokers, Crates, Veils, Feeders, Clover Seeds, Buckwheat, etc. Imported Italian Queens. Queens and Bees! Sample Copy of our Bee Journal, **"The Western Bee-Keeper,"** and latest **Catalogue** mailed **Free** to Bee-Keepers. Address
JOSEPH NYSEWANDER,
DES MOINES, IOWA.
5C6t
Mention the American Bee Journal.

VICTOR SAFE.

DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.

We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with subtreasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE.
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,... CHICAGO, ILLS.
Mention the American Bee Journal.

BEES FOR SALE.

100 colonies of brown German and hybrid Italian bees in Langstroth 8-frame and Simplicity hives, in lots to suit purchaser; also a quantity of wide frames and half-story frames Simplicity size, at a bargain.
Address, **W. L. COGGSHALL,**
22A2t West Groton, Tompkins Co, N. Y.
Mention the American Bee Journal.

SUPPLY DEALERS

AND OTHERS should write to me for SPECIAL PRICES on **BEE-SUPPLIES** for this fall and winter.

☞ **A heavy Discount allowed.**
Address, **A. F. STAUFFER,**
44Dtf STERLING, ILLINOIS.
Mention the American Bee Journal.

GLASS PAILS
FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.

Prices are as follows:

To hold 1 pound of honey, per dozen,			$1.60
"	2 pounds	"	2.00
"	3 "	"	2.50

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

Barnes' Foot-Power Machinery.

Read what J. I. PARENT, of CHARLTON, N.Y., says—"We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of beahives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free.

Address, W. F. & JOHN BARNES,
45Ctf No. 484 Ruby St., Rockford, Ill.
Mention the American Bee Journal.

JUST PUBLISHED,
"PRACTICAL TURKEY RAISING"
By Fanny Field. This book tells all about turkey raising, from the setting of the eggs to the maturity of the young turks. If you follow the directions in this book you need not lose a bird. Fanny Field has had more experience and succeeds better in raising turkeys than any other person in America. She clears hundreds of dollars yearly on them, and will tell you how she does it. Price, 25 cents. Stamps taken. Address R. B. MITCHELL, Publisher, 69 Dearborn St., Chicago, Ill.
6C tf
Mention the American Bee Journal.

Friends, if you are in any way interested in
BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to

A. I. ROOT, Medina, Ohio.
Mention the American Bee Journal.

Mention the American Bee Journal.

READY TO SHIP.

24 **ITALIAN QUEENS,** all reared from imported mothers in swarming season. One, untested, $1.00, 3 for $2.75. Two-frame nucleus with 2 lbs. of bees and untested queen for $4.00. Price list free.
J. N. COLWICK,
21A3t Norse, Bosque Co., Texas.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. June 13, 1888. No. 24.

EDITORIAL BUZZINGS.

Beautiful billows of blossoms,
Rolling o'er orchard trees,
Pink and white foamy the blossoms,
Floating away in June breeze.
Would I might rest here forever,
Bathed in these apple-bloom seas.
Here 'mid the wealth of the orchard,
In silence, save sound of the bees.

The Honey Crop of California is said to be large, and the product is of the very best quality.

Spring Dwindling has been very severe among the bees. The Saginaw, Mich., *Courier* remarks that Mr. John Rey was unfortunate enough to lose 116 colonies by spring dwindling. He is not discouraged, however, and proposes to purchase enough to replenish the hives.

Sweet Clover.—A correspondent in *Gleanings* has the following to say about sweet clover:

I have raised it four years with good results. The first year I had about three-fourths of an acre, and 10 colonies of bees. In the latter part of June the sweet clover came into bloom, and soon the bees found it. In a week more it was a regular hum in the patch from 9 o'clock until dark. It was the only patch for miles around, and there was scarcely anything else yielding honey at that time, so that the neighbors' bees had time to help take care of the honey in the sweet clover, and they did. My uncle lives two and a half miles in a bee-line from here, and had about 25 colonies; and such a stir there was among them for this little patch! Why, we just had a strong bee-line from here to Uncle Abraham's.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

The Wiley Lie in England.—Again we have to remind our British cotemporary that it is doing American bee-keepers a great injustice in asserting that comb honey is adulterated here. It is untrue, and the British *Bee Journal* ought to KNOW that. He quotes a report by "the dairy commissioner of New Jersey," on the purity of "strained honey," which shows that it is itself a fraudulent statement in the fact that three samples mentioned near the top of the list are "comb honey," and *not* extracted, erroneously and ignorantly called "strained" by the doughty "commissioner!"

These slips were distributed at the New York convention last winter, and we will here quote what our friend A. I. Root, who was present, says about it in *Gleanings* for June 1, 1888:

At the Bee-Keepers' Convention in Utica, N. Y., last winter, one of Thurber, Whyland & Co.'s men was very busy in distributing circulars to the bee-men. He had a great pile of them, and evidently made it his business to spread them broadcast. These slips of paper gave an analysis of honey which was made, as was stated, by the dairy commissioner of New Jersey. We do not know who this dairy commissioner is, nor how good an authority he is; but when I first glanced over the circular, I felt a little troubled to see that it contained a list of names of good and responsible firms who were accused of selling adulterated honey. In fact, almost every sample of honey that was examined, according to that report, was adulterated, with the exception of a few samples from private farmers or bee-keepers, with one *other* exception. This exception is Thurber, Whyland & Co.

Now, the singular part of the whole thing is, that samples Nos. 57, 58 and 60 were *comb* honey, and not *strained* honey, although the heading in small capitals, at the top of the list, says "strained honey."

Friend Cowan takes the matter up, and reflects somewhat on American honey, especially the fact that the American comb honey in our markets is, at least some of it, adulterated.

The *Bee-Keepers' Magazine* also indorses the paper, and makes some severe reflections on firms that we believe to be good and honorable men.

I am exceedingly glad to know that the Thurbers, who so recently put up honey with corn syrup in it, to keep it from candying, have reformed to such an extent as this circular indicates, but I do not belive that everybody else has gone into the adulterating business.

We have instances on record before, where some sort of a chemist has pronounced absolutely pure honey, gathered from the flowers by honest bees belonging to an honest bee-keeper, adulterated.

Who can give us some further information in regard to this dairy commissioner of New Jersey, and this statement given by the *American Grocer*, presenting such a disgraceful showing of the bee-keeping industry of the United States?

I thoroughly indorse all that the *British Bee Journal* has to say in regard to Hoge; and the whole matter looks very much as if Hoge still had hold of the crank. But we beg our English cousins to remember that the American people are not all Hoges, *by any means.*

The editor of the British *Bee Journal* copied the report of this "commissioner" from the *Bee-Keepers' Magazine*, and it is but just to say that no other bee-periodical in America has ever given publicity to it. It was sent to the AMERICAN BEE JOURNAL, but being convinced of its unreliability we refused to publish it. Here is what our British cotemporary says by way of introduction:

We have long been aware that American dealers adulterated honey, but we must confess that we were not prepared for the revelation made in the "Bee-Keepers' Magazine" for April. It appears that the Dairy Commissioner of New Jersey has had honey purchased in different towns in the State, and has had it analyzed. Out of *thirty-one* samples of honey put up by packing-houses, only *six* were found to be pure! We reprint the list furnished by our cotemporary, and commend it to the careful study of every bee-keeper.

After enumerating some of the lots analyzed, it again says:

Where does this adulterated comb honey come from? Not from respectable bee-keepers, of that we are quite sure. We have the authority of Mr. Shippen Wallace, Ph.D., for the fact that this comb honey is adulterated, and it is therefore produced. How? That is the secret. Shall we also be told that this is a WILEY LIE, or is there any other explanation than that adulterated comb honey is manufactured on some of the adulterating farms by feeding bees? We are glad to notice that not a single sample of honey purchased of bee-keepers was adulterated. Further comment is unnecessary.

All we can say to our British friends is, that they have been again "taken in," not by a "clergyman" this time, but by a so-called "Professor." We positively deny the soft impeachment. It has no foundation except in the Wiley LIE, when any one says that comb honey is adulterated! That wilful liar is responsible for all this claptrap nonsense!

Foolish Abbreviations.—Many still persist in using abbreviations when writing to this office. One lately wrote a letter and enclosed money, addressing it to "A. B. J., Chicago." It is a wonder that it ever got to us, and probably many others similarly addressed have been lost. Who among the general public knows what "A. B. J." stands for? They may puzzle their brains over it, and finally conclude that it was intended to indicate "a bright judge," "a big jewel," "a bouncing jockey," "a brown jug," or "a bad jest!!" And perhaps the latter would be the most appropriate cognomen for the cabalistic and unintelligible letters!

We would call the special attention of those who wish to have their letters reach us, to section 574 of the "Postal Laws and Regulations," which reads as follows, and is commended to the consideration of all interested:

Letters and packages addressed to fictitious persons and firms, to initials or to no particular person or firm, unless directed to be delivered at a designated place, such as a post-office box, street or number, or to the care of a certain person or firm within the delivery of the post-office, are undeliverable, and must be sent to the Dead Letter Office unless the envelope contains the card of the sender, or a request to return, in which case the letters or packages must be returned accordingly.

GLEANINGS OF NEWS.

The Union and the Wiley Lie.

Mr. G. M. Doolittle, of Borodino, N. Y., Vice President of the Bee-Keepers' Union, sends us the following item, and his remarks, and the subsequent correspondence between himself and a new champion of Wiley's diabolical "scientific pleasantry."

Mr. Doolittle says: "The following is a copy of an item which I wrote for the *Rural Home*, which appeared in the issue of that paper for May 5, 1888:

Here is an item which is going the rounds of the papers. Mr. Root, of Ohio, has a standing offer of $1,000 for a sample of manufactured honey in the comb. This should have a good effect on our industry, and will do much to counteract the story told by Prof. Wiley, of the United States Government fame, who told as a "scientific pleasantry" the story, that there was lots of honey on the market, selling as genuine comb honey, which was nothing more than manufactured stuff, the combs being made of paraffine, and the honey they contained being of glucose. From the latter, imaginary places sprang up in Chicago, New York, and elsewhere, where comb honey was turned out by the ton, all working well until the past poor season, when honey went from a drug on the market, at the low price of 10 to 12 cents per pound, to a scarcity, scarcely obtainable at the high figure of from 20 to 25 cents. This effectually squelched the Wiley lie, and caused the papers to notice the offer of Mr. Root, which was made several years ago.

A Virgianian takes exceptions to the above item, and wrote to the *Rural Home* as follows about it:

AMHERST, Va., May 4, 1888.

EDITOR RURAL HOME:—In May 5th *Rural* I notice under "Bee Notes," that Mr. Root, of Ohio, has a standing offer of $1,000 for a sample of manufactured honey in the comb, and the further statement is added by Mr. Doolittle, "This should have a good effect on our industry, and will do much to counteract the story told by Prof. Wiley, of United States Government fame, etc."

Then Mr. D. says, because honey was so high last year, "the Wiley lie was squelched." Now, Mr. Editor, if you will open your columns to a fair, open, and honest ventilation of the question, I will show who the little niggers are in this wood pile.

I deny that any "responsible" man has ever made such an offer, and more, I dare any one to make one like it. One of the largest dealers in glucose and syrups, told me four years ago, that the apiarists of Pennsylvania, New Jersey and New York States were then buying large quantities of it. What for? Why, to feed the cows, of course. I will wager $1,000 that the Wiley lie is true, as to the adulteration of comb honey. Come on saints and sinners, "Barkis is willin'."—W. M. EVANS.

This bold and bombastic letter was answered as follows by Mr. Doolittle:

BORODINO, N. Y., May 16, 1888.

W. M. EVANS.—*Dear Sir:*—Your letter to the *Rural Home*, regarding the adulteration of honey, has been forwarded to me, and I have this day written to the Manager of the Bee-Keepers' Union (a society to protect our interests), and to Mr. Root, who will doubtless give you a chance to prove your position, or lose the $1,000 you wager. The story told you four years ago by a glucose dealer, will do to tell, but may lack of proof on investigation. Yours truly,—G. M. DOOLITTLE.

Promptly Mr. A. I. Root, who is also a Vice-President of the National Bee-Keepers' Union, wrote to Mr. Evans, informing that doubter that A. I. Root was a real living man, and not an imaginary phantom! that he made the offer of $1,000 for proof "that honey-comb is made, filled with glucose, and sealed up by a machine made for that purpose!" that he lived at Medina, Ohio! that his responsibilities in commercial circles could easily be ascertained from Bradstreet's Agency, and enclosing his "business card!"

Mr. Evans was nonplused. He wrote to Prof. Wiley to help him out of the difficulty, and here is Prof. Wiley's reply:

WASHINGTON, D. C., May 29, 1888.

W. M. EVANS.—*Dear Sir:*—In regard to the matter of artificial combs of which you wrote me under date of 25th inst., permit me to make the following statement: About eight years ago a very intimate friend of mine, an eminent chemist, Dr. E. J. Hallock, now deceased, told me that in Boston, where he then resided, there had been constructed a full outfit of machinery for the manufacture of artificial comb. He stated further, that this comb was filled with glucose or artificial honey and sold for the pure article. On the basis of this testimony I made a statement in an article I wrote for the *Popular Science Monthly* to the effect that such artificial comb and honey were made.

At the time, I repeated this statement more in the light of a pleasantry than as a commercial reality, for I did not believe that it was possible commercially to imitate the comb, although I did not doubt at the time that attempts had been made in this direction. It is, however, quite a common custom to make an artificial base for the comb, and bee-keepers do not deny that this is done. Some persons, in a malicious spirit, have constantly circulated this statement of mine for the purpose of injuring me professionally, and their failure to do so has only made their persecutions more bitter.

Since Dr. Hallock is dead, I have no evidence except my own statement to offer in regard to the accuracy of the report. It is possible that Dr. Hallock may have been misinformed in regard to the matter, but he was perfectly honest in making the statement to me, and I was perfectly sincere in repeating it. Respectfully,

H. W. WILEY, *Chemist.*

In the foregoing letter Prof. Wiley makes this astonishing confession: "At the time, I repeated this statement more in the light of a pleasantry than as a commercial reality, for *I did not believe that it was* POSSIBLE *commercially to imitate the comb.*"

Therefore, he "knowingly, wilfully and maliciously" lied out of whole cloth just to cause a sensation, and to injure an honest pursuit, for the paltry pay which the *Popular Science Monthly* gave him for the article!!!

It is astonishing that any man could make such a bare-faced confession without blushing for the infamy it exhibited!

To *lie* for the filthy lucre it brings is bad enough, but when he permits *that lie* to be copied all over the world, and to be used to injure an honest business, without making the least endeavor to arrest its evil effect by an honest contradiction—the crime is doubled!

Without the least compunction of conscience he wrote "the statement" as to the manufacture of comb honey when he "*did not believe that it was possible* commercially to imitate the comb"! Infamous!!

As is usual in such cases, a *liar* will add to the number of his crimes to hide his meanness. So Wiley winds up his letter by asserting another falsehood, thus: "I was perfectly sincere in repeating it." Could a man be sincere in repeating what he knew to be a falsehood?

He knew it to be impossible "to imitate the comb," and yet (over six years ago, and never tried to contradict it) he wrote this sentence:

"In commercial honey, which is entirely free from bee mediation, the comb is made of paraffine, and filled with pure glucose by appropriate machinery."

Now he wants us to believe that he "was perfectly sincere" in the assertion.

The attempt to justify himself because bee-keepers use comb foundation (that is sheets of pure beeswax, with corrugations corresponding to the base of the cells) is as mean as it is futile.

To take the pure beeswax from the bees, melt it, and thereby take out its dirt and impurities, and give it to the bees again for use at just the time they need it, is no excuse for lying about "making the combs of paraffine and filling them with glucose!"

After receiving the above letter from Prof. Wiley, and getting no proof from it to sustain his bombast, Mr. Evans wrote as follows to Mr. Root:

AMHERST, Va., May 31, 1888.

MR. A. I. ROOT.—*Dear Sir:*—This letter settles the fact as to Wiley's statement, but it does not refute the fact that Doolittle, in his note to the *Rural Home*, so worded his reference to your $1,000 offer, as to mislead the minds of the readers as to the real facts. If he had published the $1,000 reward, and the 4 or 5 lines following (or 2 lines), then no one would have been deceived.

I made the statement two years ago in the *Rural Home*, that comb honey was being adulterated by feeding the bees mixtures, which is a *fraud* upon the public. Will you open the columns of *Gleanings* for a ventilation of this matter? And will you advocate the formation of anti-adulteration bands?

I mean that the facts shall be known, and shall use the public press freely. An *adulterated* religion, which uses the essence of hell (fermented wines), and calls it "the blood of Jesus," is one cause of the universal prevalence of adultery, and the adulteration of most everything we eat, drink, wear, and use; and I think it is about time this hell-disease was crushed, but it cannot be done by "wind religion," but only by work for God and humanity. More Golden Rule lived, and less praying and preaching will do it. Prayer in action is the kind needed now—wind is too cheap!—W. M. EVANS.

The last paragraph shows that Mr. Evans is a "crank" of the worst type.

He threatened and blustered. He *asserted most positively* that there was no such person as A. I. Root! that no responsible man

ever made an offer of $1,000 for a sample of manufactured honey in the comb! and *dared* an one to make such an offer! He also would "wager $1,000 that the Wiley lie is true!!" and tauntingly added, "Come on saints and sinners, Barkis is willin'."

It shows that it was all bombast and bluff, for as soon as Mr. Doolittle referred the matter to the Bee-Keepers' Union, he wrote to Prof. Wiley, begging for even some slight proof of that *old lie!*

When confronted by our co-laborer, Mr. A. I. Root, who is also Vice-President of the National Bee-Keepers' Union—who also assured him of his *real existence!* and proved that he was no *imaginary* individual, or a financially worthless being—then the *noble patriot* tries to back down; but to show some slight degree of fighting qualities, he proposes to "fight a wooden-man, in the shape of adulterated honey!"

He blamed Mr. Doolittle for not doing the very thing that he did do—and in every-way shows that he was frustrated—beaten at every turn—and his vaunting is trailed in the dirt before his very eyes!

Such insolent braggarts must be taught to make sure of their proofs before vauntingly parading them in the face of the intelligent public. The National Bee-Keepers' Union exists to teach the impudent, in a fearless manner, that Truth shall triumph, even though such a "Goliah" shall defiantly and tauntingly say: "Come on, saints and sinners, 'Barkis is willin'."

Audacity cannot win, especially when the National Bee-Keepers' Union lifts up a standard, and defends the pursuit.

Lawyers, doctors and ministers have been caught repeating the diabolical Wiley *lie*, and even the unknown and unheard-of Virginian essays to repeat it! But all have come to grief before the Union's triumphant banner of truth!

He Forgot.—An exchange tells the following story. It will raise a laugh, and that is as good as a dose of medicine. It says:

A forgetful man's wife sent him to a drug store for some honey. He forgot the name, but remembered how it was made, and had a paintul memory of having come in contact with the fire department of the honey-maker, so he asked the druggist for "some swate oil, made by a vicious little baste with a hot fut." The man of drugs, not comprehending the man, called his wife to aid him in interpreting the words of the son of Erin. In the call he addressed her as "Honey." "That's what I mane," said Patrick. "Honey is the thing. That's what I call me own darlin' Bridget, and I am mad at meself for not thinkin' of me own Honey as a kind of reminder like of what I was after buying."

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Aug. 3. Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

White Clover.—C. V. Lindley, of Sylvania, Ind., on June 4, 1888, asks the following question:

Will you answer through the BEE JOURNAL the following question, for the benefit of the bee-men in Parke county: Will white clover bloom the first year from the seed? The old clover was about all killed out last winter, but the young clover is coming up.

[It will bloom the first year from the seed. It is late this year on account of the backwardness of the season, or it would be in bloom now.—ED.]

Hold your Breath.—L. Hammerschmidt, Amana, Iowa, writes on June 8, 1888, as follows:

In the *Scientific American* for June 2, 1888, I find this statement: "If you hold a bee by the legs, between two fingers, and not let her sting on the fleshy part of your finger's point, as long as you hold your breath, the sting will not penetrate the skin." I have tried this, and found it to be correct; even more, I have put my hand between two combs full of bees; have taken a hand-full of bees, and when I sweep off the bees from a comb, as long as I can hold my breath, they will not sting. Will some others of the fraternity try this and report?

Putting Bees Out of Cellars.—Julius Le Fevre, of Pottsdam, N. Y., writes as follows on the above subject:

I started the spring of 1887 with 3 colonies of hybrid bees. I increased them to 7, and obtained from them 100 pounds of comb honey. I put them in the cellar on Nov. 27; the temperature ranging in my cellar from 30° to 35° all winter, from Dec. 25 until about March 15. They wintered well, although many of the bees died from March 15 until I put them out on April 27, at 1 p.m. It was a very hot day, being 85° in the shade. I do not think that it is a good plan to put bees out when it is so hot, for this reason, that some of the colonies will swarm out. Three colonies of nine swarmed out before they marked their locations, and became badly mixed up. They went to one of my neighbor's and alighted, and clustered on a small tree, and they remained there for some time. When I came home (about 5 o'clock) they were gone; so I lost them. Well, I think that this will learn me a good lesson, by experience. The morning is the best time to put bees out, when it is cooler than 85° in the shade. I received two packages of the Chapman honey-plant seed in March. I planted the seed on April 1, and it is doing well. The AMERICAN BEE JOURNAL is just what every bee-keeper needs to read, and post up on bee-keeping. I should feel lost without it.

Not Much Honey from Apple Bloom.—A. Damarin, of Mason City, Ills., on June 8, 1888, writes:

I had 6 colonies of bees on the summer stands. I lost 3, and the others are stroug. It was too cold during apple bloom for bees to get much honey. White clover is beginning to bloom, what little there is left. I do not look for much honey this season. Nearly everybody has given up bee-keeping around here, on account of last year's failure. I shall keep on trying.

White Clover in Bloom.—J. W. Bittenbender, of Knoxville, Iowa, on June 8, 1888, writes:

Bees are swarming, but are gathering very little honey. White clover is in bloom, but the weather is too cool; the wind is mostly in the north and northwest. The nights are very cool for this time of the year. Unless the weather will soon change, the honey crop will be short.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

QUERIES & REPLIES.

Enforced Queenlessness of a Colony During a Honey-Flow.

Written for the American Bee Journal

Query 550.—1. Does it pay to remove the queen from a colony of bees during a good honey-flow? 2. If so, what do you do with the queen?—Minn.

No.—J. P. H. BROWN.

No.—DADANT & SON.

1. No.—MRS. L. HARRISON.

1. No.—A. B. MASON.

1. No.—J. M. HAMBAUGH.

1. I have never tried it.—EUGENE SECOR.

1. No; I think it is better to contract the brood-chamber.—R. L. TAYLOR.

I am of the opinion that such a removal will not pay, all things considered.—G. M. DOOLITTLE.

No; just the reverse pays; contract the brood-chamber.—JAMES HEDDON.

1. No. 2. As it does not pay to remove her, leave her where she is.—M. MAHIN.

1. No, not for me. 2. Leave her where she belongs.—H. D. CUTTING.

I do not think it pays to remove the queen from a colony at any time.—P. L. VIALLON.

1. In a short honey flow it may, but not otherwise. 2. She may be preserved in a small nucleus if desirable. —G. L. TINKER.

If ever I want a good queen in the hive, it is during a good honey flow. It pays to have one there at all times. —C. H. DIBBERN.

1. It is a disputed point. 2. If you take her away, she can be kept in a nucleus, or a new colony can be formed.—C. C. MILLER.

I think not. Some excellent apiarists practice this, and like the plan. The queen is kept hard by, usually in a nucleus, often above the old hive, ready to put back at the close of the season.—A. J. COOK.

1. It will depend upon the locality. It will not pay with myself. 2. As I do not remove the queens, I leave it to the ingenuity of those who do, to suggest an answer.—J. E. POND.

1. It has not realized for me. 2. The queen, while trying the the experiment, may be given a comb of brood and adhearing bees, and one or two empty combs, and kept in a nucleus hive until the experiment is concluded, and may then be restored to her colony.—G. W. DEMAREE.

1. *It does not*, most certainly. A colony without a queen is in an unorganized state, and if storing honey all sorts of results may be looked for. Laying workers often make their appearance, and pollen will be distributed throughout the surplus department as well as the brood-nest. If you do not breed bees you will breed moths. 2. I would not do it.—J. M. SHUCK.

It is unnatural to have a colony without a queen at any time, and we very much doubt the utility of any management which requires such a thing as taking her away, even in a good honey flow. Especially is it undesirable for the inexperieneed to attempt such a procedure.—THE EDITOR.

Bee-Spaces at the Ends of the Frames, and on Top.

Written for the American Bee Journal

Query 551.—1. Are the bee-spaces at the ends of frames, in such hives as the Langstroth, of any benefit, except to keep the bees from sticking the frames to the inside of the hive? 2. Is a bee-space over the frames sufficient for all purposes?—Bee-Keeper.

I. Yes. 2. No.—A. B. MASON.

1. No. 2. Yes.—A. J. COOK.

Yes, to keep from crushing the bees in handling—DADANT & SON.

1. Practically, no. 2. Yes, and practically an absolute necessity.—JAMES HEDDON.

A bee-space is worse than none inside of a brood-chamber, except where movable frames are used.—G. M. DOOLITTLE.

No benefit except to keep from "stieking." Not absolutely necessary. J. P. H. BROWN.

1. They are not. 2. For all purposes except that mentioned above.—M. MAHIN.

Yes, bees should have aeeess to their combs from all sides, as well as the top.—J. M. HAMBAUGH.

I think not; but I believe the spaces can be afforded for the convenience of the bee-keeper.—G. L. TINKER.

1. For no other benefit. 2. Yes; but in hot weather a cap or protection from the hot sun must be used.—P. L. VIALLON.

The spaces at the ends of the frames furnish a passage-way for the bees, but the space above the frames is suffieient. —R. L. TAYLOR.

1. I suppose that to be the reason of so making them. 2. In summer, yes; in winter, no.—EUGENE SECOR.

1. They are a great help in rapid work. 2. One space is good, but for comb honey two spaces is better.—H. D. CUTTING.

I. Yes, they afford a passage for the bees at times, in hot weather for a current of air. In cold weather when the bees are quiet, they approach somewhat near, a dead-air spaee for the purpose of non-eonductors. 2. Yes.—MRS. L. HARRISON.

The object of the bee-spaces is to make the frames *movable*. Except for that, during most of the year no space is needed either above or at the ends. —C. C. MILLER.

1. They allow full and free access to all parts of the hive, and that is the purpose for which they were originated. 2. Yes, except for wintering, when I prefer at least an ineh of space.—J. E. POND.

Yes. The space acts to an extent as a non-conductor of heat and cold. Combs are not so liable to melt down in summer, and the bees are warmer in winter with this space than without it. The Langstroth principle of a bee-space *all round* the frames is now and forever right.—J. M. SHUCK.

I have never seen any other use for such spaces except those mentioned, unless it be a eonvenient loafing place for lazy bees. It is also a good place to mash bees when handling the frames. In my new hive I use frames the ends of which form the end of the hive, and I find them much more easy to handle, and bees summer and winter just as well in them as any other.— C. H. DIBBERN.

Mr. Langstroth arranged the bee-spaces all around the frames, to give the bees full control of every part of the inside of the case, and to induce the bees to do their gluing in the joints of the case instead of gluing the frames, as they never fail to do if there are no bees-spaces between the frames and the case. A bee-space over the frames is all right, and I think essentially right, and in a warm climate the bee-spaces cannot be dispensed with at the ends of the frames. I have transferred bees from the Mitchell hive, which had closed-end frames, fitting closely to the case, and found lots of ants and moth worms between the frames and the case. Frames cannot fit so close that ants cannot annoy the bees.—G. W. DEMAREE.

1. Bee-spaces at the ends of the frames are not only for the purpose of passage-ways, but also for convenience in lifting the frames in and out, additional to the uses mentioned in the query. 2. Bee-spaces over the frames are quite neeessary on many aeeounts, both in warm and eold weather.—THE EDITOR.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

CORRESPONDENCE.

CANADA.

Annual Meeting of No. Middlesex Bee-Keepers' Association.

Written for the American Bee Journal
BY R. F. HOLTERMANN.

The above meeting was held in the Court House at Ailsa Craig, on May 24, and opened at 2 p.m. President Frank Atkinson occupied the chair. The usual attendance has been from 60 to 80, and only Oxford county can boast of meetings superior to that of Middlesex. The 24th of May being the Queen's birthday, many bee-keepers were away on pleasure trips.

The election of officers resulted as follows: The President was re-elected; Vice-President, W. J. Wilson, Greenway; Secretary-Treasurer, A. W. Humphreys, Park Hill; Directors, Jas. Mathews, D. Smith, J. B. Aikes, John Anderson, A. W. Humphreys, and W. J. Wilson were elected to represent the association at the Western Fair.

The question of affiliation with the Ontario Bee-Keepers' Association was then brought up, and after the benefits of such a step were explained by R. F. Holtermann, who was requested to do so by the President, a resolution was passed, instructing the Secretary to apply for such affiliation.

The benefits are for 1888 briefly as follows: Five dollars must be paid by the society affiliating, and it must have five members paying their membership fee of $1 to the Ontario association. In return, every member of the Ontario gets one queen, purely mated. The association gets $35 for the advancement of bee-keeping, and the members are allowed to chose two representatives who are entitled to all the privileges which members of the Ontario are granted.

Jas. Husband and Dave Collins were elected representatives for the year.

The funds on hand showed a handsome balance of 10 cents.

After selecting Park Hill as the place of the next meeting, upon reconsidering the matter, Strathroy was selected, with the time, February.

It was resolved that henceforth the association should be known as the Middlesex Bee-Keepers' Association.

Bee-questions were now brought up, and just here is it not rather to be regretted that these meetings should be taken up with so much necessary business.

Question :—"Is there any difference in the activity of colonies?" The general impression appeared to be that there was; even when outward conditions appeared the same, a good queen was necessary. But conditions might appear similar, and yet not be. If a colony appeared inactive, and its neighbors working, it should be examined. It might be queenless; the brood-chamber might be clogged with honey, or from other causes it might have difficulties which might be remedied.

Question :—"How long will a drone live?" Several instances were related where drones had lived through the winter. D. Smith stated that he had a colony which had a queen, and yet permitted its drones to live through the winter.

Question :—"What is the best way to control swarming?"

This brought on quite a discussion as to the advisability of artificial swarming. W. Aikes practiced artificial swarming by dividing.

A bee-keeper from Brantford claimed that at the present prices of bees in the spring, the price only covered the hive, combs and honey consumed, and every colony lost, meant a loss of winter stores, therefore increase was not desirable. He kept down increase by giving shade, ventilation and room. The aim being to prevent the desire to swarm. If this, however, was established, he never broke down queen-cells, but let them swarm, putting the new swarm on the old stand with the old super. Second swarms were returned at the close of the second day, when one queen would be killed.

Aiming at breeding a strain of bees which would not readily swarm was advised. The advantages of Italian and Holy Land bees were brought out.

Some heavy losses from spring dwindling were reported, owing to an unfavorable spring.

Brantford, Ont.

HINTS FOR WORK.

What to Do, and How to Do it Judiciously.

Written for the Western Plowman
BY C. H. DIBBERN.

The winter losses of bees have proved much more serious than was expected a month ago. All over the North, where the drouth was serious last season, bees have died principally from starvation. Some, however, have died with plenty of honey in the hives, and the cause is not so easily determined. It is probable, however, that the honey was of a poor quality, and long confinement in severe weather wrought the mischief. Wherever the honey crop was fair last week, they seem to have wintered much better, and some are now reporting the bees as "booming." My own experience at the Rock River Apiary is not so encouraging. We have 130 good colonies left out of 180. This is the greatest loss we have ever had, in my experience of over twenty years. Many farmers have lost all they had, and I think I am safe in estimating a loss in the northwestern States of one-third. Surely, this business is not all sunshine.

How to Look at It.

It is poor policy, however, to look on only the dark side. Let us figure up and see what we have left. Hives in which the bees died are all right. Combs are all in good condition. Let us take good care of them. The prospect for a honey crop is good, and with plenty of bees left to fill up the hives again, with no foundation or hives to buy, why bee-keepers are in good condition. Then, too, prices of honey have improved so much, and with so many out of the race, there is surely a better day dawning for those who have the true grit, and are willing to "fight it out on this line, if it takes all summer."

Spring Dwindling.

The past month has been pretty hard on the bees. The weather has been very unfavorable—cold, windy weather and sudden storms. When bees were gathering honey and pollen, and becoming chilled or lost in the river, it has kept the colonies pretty weak. As we write (May) fruit trees are in full bloom, but it is so cloudy and cold that the bees can take but little advantage of it. The dry time, however, seems to be over, and the splendid rains we have had, will bring out a fair crop of white clover, so that the prospects now seem to be all right.

Get the Bees Ready for the Harvest.

It will require good management and careful attention to get the bees in the best condition for the white clover crop. Of course everything should be done now that will help and save work when the busy time comes. See that all the material for sections, hives and crates is on hand that is likely to be needed. It is better to have a little too much than not enough. Experience has taught us that it will not do to depend on the supply dealers to furnish these things on the spur of the moment.

Seasonable Work.

Swarming will likely be upon us towards the last of the month. See that your have hives ready, and now is the time to use up the comb from the hives where the bees died out during the winter. It will pay to sort these

combs over and use only such as are straight worker comb. Cut out all the drone comb you find, and all crooked or very old, soiled comb. If you have not comb enough to fill the hive, fill out with full sheets of foundation. On no account use empty frames, as the bees would be almost certain to fill them with drone comb.

For a Combination—What?

We have been asked what can be combined with bee-keeping to make the pursuit reasonably safe and certain to support a man with a family. Well, in the first place, if the person has had no experience, or a great natural liking for it, we should say, do not go into it at all. So few have succeeded in making it a success, as an exclusive business, that some other undertaking would be more certain to yield an adequate income. But to answer the question, a good garden should be one of the first things to be thought of. Much can be produced in this way by working at odd times, that will be a great help, and greatly reduce the family expenses. All kinds of small fruits, and especially strawberries, raspberries and grapes, should be grown. If you have more than can be used by the family, there is usually good sale for the balance. A cow or two, where pasturage can be had, may be kept, also a flock of chickens, and in fact everything or anything that will contribute to the comfort and welfare of the family.

Selling the Honey Crop.

Now let us get ready for the honey harvest that will likely be a little late, but will probably put in an appearance early this month, and should last well into July. Should we be fortunate enough to get a reasonable crop, do not be in too great a hurry to sell it unless it is wanted at full figures. During the last few years, when a fair crop was secured, some bee-keepers seemed to be so anxious to get rid of their honey, and get ahead of their neighbors, that they sent it into the nearest town and sold it for whatever was offered. The price obtained was often ridiculously low, and the market was thus ruined for the balance of the year. The bees are not now in the country to gather a very large crop, even should the season be exceptionally good, and there will surely be no more honey produced than can easily be sold at about present rates. It is better to secure the crop first, in the nicest possible condition, and no matter if grocerymen begin to wonder why honey is not forthcoming, they will be all the more anxious to buy when it is brought in. Do not take in too much at a time, especially at first—a crate or two is plenty. Better supply them often, and keep it neat and fresh, and keep it going. In this way it will never become old stock and unsalable.

Milan, Ills.

THE OTHER SIDE.

Experiments in Providing Pasturage for Bees.

Written for the American Bee Journal

BY MAHALA B. CHADDOCK.

I notice that many writers on bees speak of sweet clover as a valuable honey-plant, and they say that it yields honey all summer. Last fall I rode four times a week along a road that was lined for miles with sweet clover, and I never saw a bee on it—not one. This was in September and October. Perhaps the hot weather had dried up all the first growth, and this was only a second fruition, and contained no honey, or none worth the bees' notice. I masticated some of the blossoms, and they had a far-away sweetish taste, a little sweeter than rain-water.

Once Mr. Chaddock was with me when riding, and I asked him to let me stop and gather some of the seed to sow in waste places. "No, indeed," said he; "not on my land. I have weeds enough already. Don't you see those cows eating grass roots, and here is all this sweet clover going to waste. Nothing eats it; it is a pest." I told him that Mrs. L. Harrison and all the big bee-keepers took home much of it, and scattered it about, and the bees gathered honey from it. But it was of no use to argue.

About a year ago I decided to raise Alsike for the bees to work on, and I began talking Alsike to every one who would listen. When I went to the neighbors I took all the bee-papers along that had anything about Alsike in them, and read them aloud, and when they came to see me I did the same.

At last several of the farmers grew so tired of hearing about Alsike, that they agreed to get half a bushel of the seed and try it;—if what? If I could get a farmer *who did not keep bees* to say that it was as good as red clover. Then I wrote to the editors of all the agricultural papers that we take, and asked them—yes, begged them to say that it was as good. But none of them would quite say it. They would say that it was "about as good," and that on certain lands it would do as well, etc.; but not one of them would come squarely out and say, "Yes; Alsike is fully as good as red clover for a farmer's use."

Then I told the farmers that I would buy the seed if they would sow it. I told Mr. Chaddock that I would give him some of the seed if he would give it room to grow. He yielded, and said that he would sow a bushel of the seed. So I got two bushels of the seed, and the neighbors paid for their shares. (You cannot give anybody in Illinois anything; they are all too independent.) They sowed the seed, and it came up well; but the dry weather killed it all except a patch about as big as a table. This patch was in an old pasture, and was a hard, bare place where the sheep had been salted (I believe).

One of the neighbors says that he thinks he will try it again. I won't. I am through growing Alsike. It may be a very good clover for everything, and more too, but I shall not urge people to raise it. The sign does not seem to be right for us to raise it, and I shall not worry any more about it.

Dr. Miller says (I believe) that his honey cost him about $2.50 a pound. Did he give the items anywhere? If he did, I have not seen them. Of course I do not doubt what he says. I know that the only year that I have ever had a fall crop of honey, was the kind of year that I never want to see again. We had 25 acres of corn, and obtained only 28 bushels; our oats rattled in the shock, and the wheat rattled in the stack. It rained, rained, rained all the time; all the corn on low ground was never plowed at all. Reapers mired in the fields when cutting small grain, and after the harvesting was done it did not get dry enough to stack. Every time the sun shone out for half-a-day men, women and children rushed out, tore the shocks apart, and spread the sheaves out to dry. The next day it would darken up again and out we went to shock it up again. Most of the grain, when stacked, was damp, and a great deal of it was ruined. We could get no hay dry without its being spoiled with rain. It was black, ill-smelling, musty stuff. Here we were with very little small grain, no corn to speak of, no good hay, and no corn-fodder, but we had a ton of honey, I suppose. The rain kept the corn from growing, and most of the corn fields grew up a solid mass of smart-weed, and this was what kept the bees swarming and carrying in honey all summer.

My bees swarmed from four to six times, and filled everything full of honey that they could find, even building combs beneath the hives, and storing honey in them. They had thousands of acres of smart-weed to go to, and they went to it; but I pray to be excused from having another fall crop of honey, if I have to pay the price for

it that we paid for that. Honey was worth 18 cents a pound then, but hogs were worth 8 cents, and we had no corn to feed them.

Vermont, Ills.

HANDLING BEES.

Hints about the Use of Smoke, Veil and Gloves.

Written for the Country Gentleman
BY JOHN M. STAHL.

The secret of handling bees is not to fear them. Not a few will say that I am wrong, but gloves for the hands, gauze for the face, etc., should very rarely be used. Bees do not sting until they are exasperated. Nothing exasperates them more than accidents. The person with gloves on his hands, and gauze before his eyes, is bound to be awkward. He handles the bees and all the paraphernalia of the apiary clumsily. He lets something fall, or topples something over. He jars the hive, or injures the bees. The less disturbance possible to the bees, the less the chances of arousing all their ill-temper. The person with gloves and gauze is more awkward and slow; he cannot handle the bees with celerity and deftness. Hence he precipitates the catastrophe. Angering the bees should be prevented, rather than protecting oneself by the very means calculated to anger them. The excitement and exasperation of the bees harm them—are a loss to the apiarist; hence are to be guarded against, for full as good a reason as the escape from a sting. The man who is more afraid of being stung than of exciting the bees, is not a good apiarist.

Because of this, I condemn the frequent use of smoke by many. Some bee-keepers are very fond of smoke. They must have a smoke in the yard almost every time they touch a hive. This is foolish, and worse. Smoke is to be used only as a last resort—in an emergency. It seems to me that few know how to use it judiciously. It is a violence to the bees; and as the apiarist values the well-being of his colonies, and the fullness of his pockets, he will do as little violence to his bees as possible. My observation convinces me that this ever-present smoke is responsible for more stings than it prevents.

I know some men who handle from fifty to one hundred colonies without gloves or gauze, and likely without using smoke once during the season. Of course I do not condemn smoke altogether. There is a great difference among colonies. I have met with a few colonies that could not be handled much without smoke, and I gave them a dose with pleasure.

It is now easy to guess why the person who is afraid of bees is apt to get stung. He is nervous as soon as he gets within thirty yards of a hive. He makes quick, jerky motions, exasperating to anything that has sense. He spills and drops and jars until the bees could not be otherwise than angry; and he increases the evil by the precautions he has taken against being stung. I have seen these nervous men crush bees—in transferring, for instance—by the dozen, not through carelessness, but because they were so nervous and scared that they hardly knew what they were doing. Is it any wonder that the fellows of the crushed bees tried to avenge their untimely taking off? And I must confess that I was glad when they succeeded and made the murderously-nervous person howl.

I feel earnestly about this matter because I was *converted*, and *powerfully* converted. Once I was afraid of bees. Had only about 25 colonies, and got stung in handling them. A neighbor, Mr. Finlay, had above 100 colonies; used neither gloves nor gauze; it was very rarely that smoke was seen in his apiary, and yet he laughed at being stung. One day I was passing, and he called me in to see his bees, as he said. Trembling, I went, for I surmised that he wanted to try me. It was a "wet spring," and we both were bare-footed, with our trousers rolled up to our knees. We were in our shirt sleeves, and he had his sleeves rolled to his elbows. He took me in among his hundred colonies. To show how brave I was, I stood very near a hive. "I wanted to see if you knew how to handle bees," he said, "and I see already that you don't; any person that knows how to handle bees will never stand right in front of a hive" he will keep out of the way of bees all he can, and yet do his work. You can stand against the back or side of a hive and not disturb the bees; but get before the entrance, and you interfere with their movements. Now, stand here; stand still. If you strike at a bee you'll be stung to death. You know how to handle a horse as well as any one I ever saw, but among bees you are a coward. I want to make you a man among bees."

Reader, I *was* scared, and "Curg" laughs yet when he recalls the episode. I was so scared that I cannot give an account of what he did. I only know that in three minutes every blessed bee he had (so it seemed) was swarming around me. I stood there, still; and I have no doubt that my hair lifted my battered straw hat from my head. He kept me there until the bees resumed their normal condition. I was not stung once; and I was cured of being afraid of bees.

Since then my line of action has been marked by sweetened water rather than smoke; and handling bees has become pleasant, instead of very disagreeable work; and I have been more successful.

Adams County, Ills.

CLOSE SPACING.

The Curiosities of Bee-Literature.

Written for the American Bee Journal
BY J. E. POND.

The article of Mr. E. P. Churchill, in the AMRICAN BEE JOURNAL, leads me to take the above heading for my text.

The matter of which he writes, viz: Close spacing of bees is one that has been discussed in the bee-periodicals of the United States and Great Britain for a number of years, and I had supposed that the glory or shame of introducing the subject belonged to another writer than Mr. Churchill. I therefore desire to ask him when he originated the idea? What scientific points he bases it upon? and what, in his judgment, is or are the reason or reasons why it produces the effects he claims?

As for myself I deem the matter one of great importance; I believe that the adoption of the principle, when fully understood, will work a revolution in bee-keeping, and with that belief I desire to learn all I can in regard to it, and wish that Mr. Churchill would devote an article to the subject of informing us on what natural theory it is based.

North Attleboro, Mass., May 29, 1888.

ONTARIO.

The Haldimand Bee-Keepers Meet and Talk.

Reported by the Secretary,
E. C. CAMPBELL.

The Haldimand Bee-Keepers' Association met at Nelles' Corners on Monday, May 28, at 1 p.m., the President, Mr. James Armstrong, in the chair. The following members were present: W. Kindree, E. Kindree, H. Smith, O. Fathers, E. Gee, F. Mehlenbacher, Israel Overholt, Geo. Snider, Geo. Werner, W. Best, F. Rose, H. Coverdale, Fred Harrison, Jas. Caldwell, Eli Grobb, H. Aekland, and the Secretary.

The minutes of the last meeting were read and approved.

The President addressed the meeting in reference to affiliation with the Ontario Bee-Keepers' Association, and explained the advantages to be derived therefrom. It was necessary that there should be at least five members from each local association, and a subscription of $5, in order to become affiliated, and in return each member would receive an Italian queen, and the local association would receive a grant of $35.

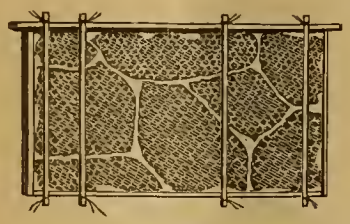
After the matter had been thoroughly discussed, it was moved by Mr. Smith, and seconded by Mr. W. Kindree, that the Haldimand Bee-Keepers' Association be affiliated with the Ontario Bee-Keepers' Association, and that the Secretary be instructed to forward the necessary fee of $5. Carried.

How to Transfer Bees.

Mr. Kindree described his method of transferring from a box-hive, which was by taking a side off the hive and cutting out the combs, which he fastened into frames by means of sticks on each side, tied on top and bottom so as to hold them in place until the bees fastened them all right, when he took the sticks off.

Mr. Armstrong's plan was much the same as Mr. Kindree's, but he used a peculiarly shaped tool for taking the combs out of the hive, instead of taking the side off the hive.

The following diagram shows how a frame looks when transferred as described above :



The Best way to Hive Natural Swarms.

Mr. Smith placed an old newspaper in front of the hive, and when the bees were nicely clustered in the swarming-box, he shook a few on the platform, and they soon ran in.

Mr. Armstrong described his plan of using a swarming-box, which he held so that the swarm could easily cluster in it, when he took it to the hive and shook a few bees down on to the platform in front, and the whole swarm soon ran in with joyful haste.

Mr. W. Kindree's plan was the same as described by Mr. Armstrong, and he thought the swarming-box was worth its weight in gold for practical use to every bee-keeper.

Messrs. Mehlenbacher, Rose, Coverdale and Overholt gave their plans, which were in the main the same as given above.

Which is Best, to Fill the Sections, or Use Starters ?

Mr. W. Kindree usually put in a starter, but he thought that the bees made straighter and nicer comb honey when the sections were filled with foundation.

Mr. Armstrong was in favor of filling the sections with thin foundation. If the lower story was full of combs, he used starters in the sections ; but if there were only starters below, he filled the sections with foundation.

Messrs. Overholt and Rose had used only starters.

Report of Losses.

	Fall '87.	Spring '88.
James Armstrong	112	100
Wm. Kindree	49	43
Elijah Kindree	17	11
Henry Smith	6	0
Owen Fathers	25	18
Israel Overholt	8	5
F. Mehlenbacher	50	34
Ephraim Gee	5	5
Abraham Gee	2	2
James Caldwell	64	54
Frank Rose	91	84
George Snider	7	6
Fred Harrison	36	31
Robert Coverdale	34	26
George Werner	8	6
Eli Grobb	4	2
Wm. B. Best	30	28
Henry Ackland	34	33
Nicholas Fess	6	1
E. C. Campbell	6	5

Moved by Mr. Rose, seconded by Mr. Overholt, that this association give $8 to the Cayuga and Jarvis shows, and $4 to the Rainham show, on condition that they give twice as much in prizes for honey and apiarian supplies, and that the local members of the association be authorized to wait upon the directors of the above agricultural societies. Carried.

Moved by Mr. Smith, seconded by Mr. Fathers, that the next meeting of the association be held at Fisherville on Saturday, Sept. 29. Carried.

SWARMING.

Do Bees Select a Home Before Issuing a Swarm ?

Written for the American Bee Journal

BY C. L. LOVELAND.

Mr. J. E. Pond remarks on page 297 thus : "Whether bees ever select a home before swarming, is a question that probably no one can answer." I think that I can come very near answering it.

About 25 years ago I bought 2 colonies of bees in the spring. I knew nothing about bees, and did not know one bee from another. I had a hired man that had worked with bees some.

One Sunday I left him to watch them while I went to church. When I returned he said that the bees had swarmed ; that he watched them until he thought they had commenced alighting on a bush about 8 rods from the hive. He then went 6 or 8 rods to the barn for a hive, and when he returned they were gone. My farm was what was called prairie-opening, with quite a number of large trees still standing. We took the direction that they went from the hive to the bush. We went about 80 rods and found them up about 20 feet in an oak tree. We cut it down and saved the bees. I saw the next swarm come out. They did not alight. I followed them directly to the tree, about 100 rods from the hive. We cut it down and saved the bees. A few days after I saw a neighbor that was quite a bee-man. He said to me, some one has got a swarm of bees on my place. I told him they were mine ; I followed them directly to the tree. He said he was watching that tree ; that he was there and saw the bees cleaning out the tree, a number of days before they swarmed, and thought that he was going to get a swarm.

My opinion is, that all first swarms look for a home before swarming. Perhaps some after-swarms do not. I want to know how any one knows that bees send out scouts. After clustering they may do it, but I think it is no easy matter to prove.

Plainview, Minn.

GIVE ROOM.

Giving the Bees Room, to Prevent Increase.

Written for the Ohio Farmer

J. A. B.

To obtain the greatest yield of honey, ordinarily, swarming must be controlled to a great extent, although we often gain in surplus by allowing strong, powerful colonies to cast a swarm. A certain amount of space may be profitably occupied by bees, but an over-supply of bees to the amount of space is not so profitable. Hence a division of the swarm is, I think, more preferable, and no better division can be made when surplus honey is in view than to permit the bees to make it themselves if at, or near the proper time. But in allowing such increase, a line must be drawn, as any increase except in such cases is a barrier to honey production.

The size of the hive, or space for the brood-chamber, as generally adopted by bee-keepers, is about 2,000 or 2,400 cubic inches, and the surplus department should have abont the same dimensions. A prosperous colony in the honey season should occupy this entire space, filling every crack and crevice to such an extent as only to admit of working room, or, as the saying is, "elbow room."

When this space becomes crowded, and the bees are forced to the outside for room, loafing in large numbers, clustering on the outside of the hive will take place. If this occurs during the honey flow, it shows that something is wrong; that room is required, and I prefer, rather than to add another story to the hive, to swarm them naturally if possible, and thus have them divided into colonies. If the above is correct, the reader will readily understand what it takes to make a prosperous colony secure the best results.

In order to prevent all swarms that may not be desired, in most cases it is only necessary to keep down the construction of queen-cells. Swarming may be very easily foretold from six to eight days, by the construction of queen-cells. The destruction of these cells will discourage swarming, and in most cases prohibit it. But in rare exceptions bees will sometimes persist in issuing, even if queen-cells are not present, especially after frequent annoyance by removing their cells, from the fact that their leaving the parent colony in this condition does not injure it. If brood is present, their excuse for so doing may be deemed reasonable, but as this will at once check the process of storing surplus, the point aimed at, it is necessary that we keep them together, and the only way we can make a sure thing of it is to take away their queen. This is a never failing remedy to check swarming at the time.

If an abundance of young brood is present in the hive, I cannot see that it will do any particular harm, but as a general thing this is a preventive only for the present, for if the honey-flow continues there will likely be another effort made to swarm eight days thereafter. Queen-cells constructed from the brood left after the removal of the queen, will at this period be maturing, and swarms may be the result. At this stage of proceedings we have made the best progress by removing all queens or cells, and introducing a laying queen.

Another plan we have used, which may be equally as good with those persistent swarmers, is to allow them to swarm, hive them in a new location, and strengthen them up ready for occupying the surplus boxes at once, by drawing from either of these left, or other colonies. If, on the other hand, we wish to increase our number of colonies somewhat, and at the same time secure a fair crop of honey, we would manage to have all strong, as near the swarming point as possible at the opening of the honey flow. In fact, it matters not what particular method of management we intend to adopt for the season, it is of the greatest importance in any case to have strong colonies at the commencement.

Doubling the number of colonies is a fair increase. This we can do, and at the same time secure a fair crop of honey, and we would do this by allowing the first swarms to issue. I think this better than dividing, if salable surplus honey is the object, together with a fatr increase.

If we expect to make increase the sole object, we would manage quite differently. We would work entirely on the artificial plan of increasing by dividing. Previous arrangements should be made in rearing queens so that the supply is at hand at the time of operating. In making these divisions we should not separate into too many parts at one time. A colony divided into two is enough at once. Each queenless half should be provided with a laying queen, thus keeping each part strong, and furnished with laying queens. This keeps up a large portion of the brood at all times, and doubles the laying forces by the addition of an extra queen at each division.

When dividing a colony into many parts at one time, it weakens each part so that even if laying queens are furnished, the amount of brood-comb in which to depost eggs is limited according to the strength of the colony. Hence comes the necessity of having each part as strong as possible, thereby accommodating the queen with room according to her laying capacity. The secret of success is in dividing more frequently, and not making so many parts at once out of the same colony.

A strong colony divided into two parts may be divided again into four parts, in six or eight days, when it may be kept up every ten or twelve days thereafter, being governed entirely by the flow of honey, which may be either natural or artificial.

LARGE HIVES.

Honey-Boards, Contraction, Pollen in Sections, etc.

Written for the American Bee Journal
BY JAMES HEDDON.

Without consuming more space than is necessary, I wish to say that all the points made against the usefulness of my hive by Messrs. Dadant and Hambaugh have been fully answered over and over again, more especially so by quotations from patent law, found on page 213 of the BEE JOURNAL for 1886. If the reader will read and carefully consider them, he will see the truth of this statement.

With reference to Dr. Tinker's article on page 330, no one can say but that he is entirely correct, but it is sometimes very hard for human nature to use pleasant words and kind sentences in response to those who are doing them an injury. A truth cannot be told harshly enough to make it false, nor can a falsehood be told kindly enough to make it true.

Contraction of Brood-Chambers.

Brother Tinker says: "Probably no man in this country has had a larger or more varied experience in the contraction of brood-chambers in the past five years than the writer." I am quite sure that I can prove that either Mr. E. J. Oatman or myself have had more than twenty times the experience in contracting that the Doctor has had. I am informed that Dr. Tinker has never really used divisible brood-chamber hives.

I desire to make these facts known in justice to us both: Soon after I made public my late invention, Dr. Tinker purchased a hive of me, and wrote me that he did not wish to use my invention as I had made it, but would use a portion of my principles, and sent me a model of the hives he was using, which had a brood-chamber of one section, composed of seven close-fitting frames, shallower than the Langstroth hive. A brood-chamber of too little capacity for all seasons of the year, and the very thing which the Doctor has been using ever since, when he suddenly departed from his "continuous-passage-way hive," adopting one on the principle of mine, arranging with me to use it for one year.

Pollen in the Sections.

But for arguments sake, suppose the Doctor really had experimented with my hive in its purity, the one which he refers to on page 330, and suppose he really had any evidence that there was $\frac{1}{8}$ too little room in the contracted brood-chamber, which caused the bees to carry pollen above, and that the bee-space in the center of the brood-nest proved an impediment to extensive brood rearing, we can but regret that he lives in such a peculiar location, or has such exceptionally obstinate bees that everything works so differently with him than with a hundred others who have reported publicly and privately.

I think three or four have reported "pollen in the sections" one year, but there are quite frequently years in which this occurs with all hives. Who has not seen surplus honey nearly ruined with bee-bread in days when nearly all the hives used were from 14 to 20 inches deep? Some way or other, as we have adopted shallow and shallower hives, we have in exact pro-

portion eliminated bee-bread from our surplus comb honey; not because bees are less liable to carry pollen above shallow brood-chambers, but because shallowness has little or nothing to do with it, and we have discovered and attended to the conditions which cause it.

Queen-excluding Honey-Boards.

The Doctor claims to be the first who used queen-excluding zinc in honey-boards, and the first to make it public; but on examining the record we find that this is not so, and believe we can prove that we have used more than twenty queen-excluding honey-boards to his one.

We say this in all kindness, and will try hereafter to show up the Doctor's mistakes in articles which shall combine both kindness and truth.

We trust we have written this kindly, that our brother bee-keeper will hereafter devote his attention to the statements and arguments made by those who differ with him upon these important points in progressive bee-keeping, rather than to the character of the writing or writer.

Dowagiac, Mich.

A BEE'S SOLILOQUY.

Written for the American Bee Journal

BY JOHN JAMESON.

As I sat musing one fine day,
I thus commenced to sing my lay.
The poet Virgil sang of bees,
His martial countrymen to please,
And now I will prolong the strain,
And sing about the bees again.

We must have perish'd in the flood,
In water deep, and slimy mud,
Except the pair in Noah's cell;
What kind they were, let wise men tell.
That's something far beyond my ken,
And puzzles e'en the wisest men.

I do not care for stylish hive,
If in a keg could live and thrive.
I like the one as well's the other,
New inventions seldom bother.

Had I my way, I'd rather be
In hollow dark of some high tree,
Or in the cleft of some steep rock,
Away from human kind and smoke.

They ship me here, and ship me there,
Exhibit at the County Fair;
Where some great bee-man, I expect,
Expatiates on the great insect.
And when they get a costly prize,
I never see it with my eyes.

Above all insects we have fame,
There's none has sweeter, honored name.
We're found almost in ev'ry land,
On Mediterranean strand,
And on the shores of Norway bleak,
In Mexico, round Mozambeque.
We're humming round on ev'ry hand,
Australia and Van Diemen's land.

Sometimes they ship us far away,
And then we travel night and day.
They crowd us up in little space,
Until we reach the destin'd place.

And then the same thing o'er and o'er,
My old home likely see no more,
A change of masters matters not,
Ours surely is a cruel lot.

For days we rattle in the train,
And weary to be out again,
Sometimes among the freight I'm jamm'd,
At other times I'm toss'd and slamm'd.
I do detest the din and dust,
But no use talking, go we must.

Left to ourselves, we'd rather be,
Along the Caribbean sea.
We love to be where it is warm,
Cold does incalculable harm.
We want some Raleigh, or a Penn,
To lead us out of this cold den,
We hope the rising generation,
Will all encourage emigration.

The Tropics suit us far the best,
In this cold climate too much rest,
The bee-men all should move their camp,
And with us take a southern tramp;
There daily we would better fare,
And keepers would have far less care,
And need no granulated trash,
Or any other kind of mash.

They brought my mother o'er the sea.
My daddy was a native bee;
So I'm a hybrid vicious pest,
And dreaded more than all the rest.

Yes, all I am, and have, I'll bet,
The pure Italian is the pet;
O, give me not so hard a name,
Organization is to blame.

No doubt you have a brighter band;
But can't call this your native land.
At home you had a balmier air,
A sky with which few can compare,
"I love my own, my native land,"
And care not for your triple band.

Some say you gather far more honey,
And make your owners lots of money,
Perhaps that's so: but last season,
For being short, we've good reason;
Nature withheld her precious stores,
Now poverty surrounds our doors.

I've often heard the natives say,
That blacks were in the earliest day,
Fresh from the great Creator's hand,
With all the humble, creeping band,
That climate, food, and habit chang'd,
According to the parts we rang'd.

It puzzles me and all the rest,
To find how we got so far West;
Perhaps we came by Behring's Strait,
On some rude craft with Indian freight.

Perhaps the Northerner brought us here,
This heterogeneous mass to cheer;
Perhaps we are a new creation,
Prepar'd to feed this Yankee nation.

My life is short; but I am proud,
For o'er me hangs portentious cloud,
A weary slave for selfish man,
And never pleas'd do all you can.

Some keepers well deserve a share,
Of us they take such gentle care;
Old fogies should not have an ounce,
Bees ev'rywhere on them should pounce.

The bipeds would get burning hail,
But they protect with gloves and veil.
If bees could only stop supplies,
Our masters then would ope their eyes.

Our keepers take some stores away,
And drones, alas! would always stay;
But we express no clement doubt,
We pinch their necks and hustle out.

The robbers come and plunder too,
A turbulent and murderous crew.
Moths, mice and ants give us no peace,
The human, lower, all us fleece.

I reckon we must not forget,
That man has got Dominion yet;
The land and sea subserves his end,
This state of things we cannot mend.

No doubt the premordial hoardes
Had honey on their festive boards;
Not from a pretty Langstroth box,
But from the hollow trees and rocks.

Sometimes they pack us round with chaff,
And then we have a general laugh;
Sometimes they put us in the cellar,
And there we sleep, and sometimes *better*.

For four long months ne'er see the light,
Until we take our early flight;
When rosy spring cheers up the land,
They place us on the summer stand.

Our mother's wing they often clip,
Yet swarming time makes bee-men skip;
Where have they gone? up in a tree!
There! there! run fast! be quick! see! see!

Some plant the luscious melilot
As near as can be to our ent;
So that we need not travel far
To gather in the sweet nectar.

In spring we often have the *dwindle!!*
And that the bee-man's ire doth kindle.
He's often left without a bee,
And that's a piteous sight to see.

How to increase all don't agree,
Some say divide, some let them be,
Some like the model old Langstroth,
Some Simplicity, some like both.

Five shining eyes, and hairy tongue
To see, and gather sweets amoog
The aromatic woods and dells,
And store the honey in our cells.

Like Robin Hood and bold Rob Roy,
Free booting ev'rywhere enjoy;
A fence to us is not a bar,
We find aroma near and far.

Now I will stop my cogitation,
And ply with zeal my avocation;
Adjust my wings, and busy go it,
'Twill better pay than being poet.

—*West Toledo, O.*

FALL CROP.

Prospects for a Fall Crop—Honey vs. Increase.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

In opening a colony of bees this morning, I found all the frames full of brood, but scarcely a day's ration ahead, and plenty of drones and drone-brood, with every appearance of coming swarms. All needed now for an outbreak of the swarming fever, is a flow of nectar. There appears to be plenty of pollen, and bee-bread is abundant. The locusts are in bloom, but there has been a great deal of rain of late, which washed out the sweetness. It is fair to-day (May 30), and there may be some nectar secreted.

Fall Crop of Honey.

So much rain promises well for honey in the future. The greatest flow ever known here was in the fall. This wet weather will bring forward white clover, and we may yet hope for a supply of this delightful sweet—real ambrosia, fit for the gods. When the electric conditions are just right, and the flow abundant, the comb is so delicate as to be almost imperceptible. I have yet to see a finer honey than from the white clover of the North and West. As this honey is so desirable, every effort should be made to secure as much as possible in the best shape.

Honey vs. Increase.

A large increase in colonies, and a large amount of surplus cannot be secured at one and the same time. It is best to secure all the choice honey possible, and if increase is desired, make it afterwards. Choice queen-cells should be saved during swarming time, and the young queens reared can be used in making colonies after the flow of honey is past. Italian bees often swarm even before starting queen-cells, and then the old colony builds and rears queens. It is good management to save all the cells built in a choice colony, so as to have good, vigorous queens, to introduce wherever inferior stock is discovered.

Before any of the queens emerge, the colony can be divided up; a frame containing a queen-cell, and covered with bees, can be removed to a hive, and confined to one side by a division-board. If there is not enough honey in this frame, another one containing honey should be given it. When the young queen is out, it is well to add a frame of eggs and larvæ. This will furnish employment for the bees, and, if the queen is lost on her bridal tour, furnish the means of rearing another. Where increase is the object sought, the after-swarms can all be hived and built up into strong colonies before cold weather. Of course these all contain young queens, and the old one leaves with the first swarm.

Hiving Swarms.

Many complain of their swarms deserting the hives. Whenever this is the case, there is some cause for it; either the hive is unclean, or has some disagreeable odor about. I once had a swarm come out of a hive and cluster several times. On examining the hive I discovered that it was a new one, and that the entrance was too small; the bees were simply too warm, and for fear of suffocating, deserted the hive. On putting them in a hive with a wider entrance, they went to work, with no more foolishness. I like to have my hives standing where they are to remain, and carry the swarm to it. If they cluster on a limb of a tree that I am willing to cut off, I do so, and carry it to the hive, and lay it in front upon a clean surface of a board or cloth, and then direct a few bees to the entrance with a little twig. If they are violently shaken off, all at once, they may take wing and cluster again. Sometimes I shake them off into a dish-pan, cover them with an apron, and pour them in front of the hive.

Peoria, Ills.

Your Full Address, plainly written is very essential in order to avoid mistakes.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe; costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages).....	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.

HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

DETROIT.

HONEY.—Best white in 1-pound sections, 14@15c. Extracted, 9@10c. Supply decreasing slowly.
BEESWAX.—23c.

May 21. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 15@16c. for best one-lb. sections; other grades are slow, at lower prices. Extracted, 7@8c. Light demand, and supply larger than usual at this season of the year.
BEESWAX.—23c. R. A. BURNETT,
May 1. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c. Market is dull for comb but improving for extracted, of which new from the south is arriving.
BEESWAX—Scarce, 24@27.

May 21. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.

Mar. 13. S. T. FISH & CO., 189 S. Water St,

CINCINNATI.

HONEY.—We quote extracted at 4@9c. per lb., for which demand is good. Comb honey, 14@17c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Apr. 23. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.

Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.

Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs., 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.

Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 6@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.

Mar. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote for new extracted 6@4½c., as to color and quality. New comb honey 14@10c., as to quality. Arrivals are still small, and demand of a jobbing nature.
BEESWAX.—Scarce, 20@24c.

June 2. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.

June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

H. L. Pangborn, of Maquoketa, Iowa, says: "I can fill no more orders for bees."

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name aud address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Advertisements.

ITALIAN QUEENS by Return Mail. Tested, $1.00; untested, 75 cents. Bees 75 cents per pound. Albino queens same price.
GEO. STUCKMAN,
24Etf NAPPANEE, IND.
Mention the American Bee Journal.

SAMPLE COPIES of the **AMERICAN APICULTURIST** and our Price-List of Winter Strain of Pure Italian Bees sent free. Address,
18Etf **APICULTURIST, Wenham, Mass.**
Mention the American Bee Journal.

2-Story Langstroth Hive, 80c.

WE still have a few of those Two-Story **Langstroth HIVES** with 10 Brood-Frames, at **80 cents.**
Who wants them? Speak QUICK, or it will be too late. Address,
SMITH & SMITH,
10Etf KENTON, Hardin Co., OHIO.
Mention the American Bee Journal.

CARNIOLAN QUEENS.

Gentlest bees known; not surpassed as workers even by the wicked races. Imported Queens, "A" grade, $8.00, Tested, $4.00; Untested, $1.00,

One-half dozen $5 00
Never saw foul brood. Cash always required before filling an order.
S. W. MORRISON, M. D.,
14Etf Oxford, Chester Co., Pa.

VICTOR SAFE.

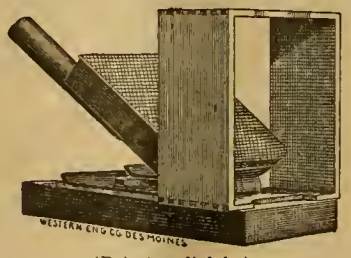
DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.

We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with sub-treasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,... CHICAGO, ILLS.
Mention the American Bee Journal.



(Patent applied for).

BEST FOUNDATION FASTENER for Brood-Frames and Sections. Description and Illustration sent free on application.
J. W. BITTENBENDER,
20Etf KNOXVILLE, Marion Co., IOWA.
Mention the American Bee Journal.

A Year among the Bees,

BEING

A Talk about some of the Implements, Plans and Practices of a Bee-keeper of 25 years' Experience, who has for 8 years made the Production of Honey his Exclusive Business.

BY DR. C. C. MILLER.

Price, 75 cents, by mail. This is a new work of about 114 pages, well-printed and nicely bound in cloth. Address,
THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

30 STRONG COLONIES OF ITALIAN thoroughbred Bees in Langstroth hives for sale. For prices, address,
D. VOGLEMAN,
24Alt WHITE HOUSE, OHIO.
Mention the American Bee Journal.

TESTED ITALIAN QUEENS, $1 each; untested, 75 cents each; 3 for $2; 12 or more 65 cents each. 75 cents per pound for bees. Albino queens same price.
23Atf **I. R. GOOD,** Nappanee, Ind.
Mention the American Bee Journal.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.
Mention the American Bee Journal.

BEE-SUPPLIES, RETAIL AND Wholesale.

The Largest Steam-Power Shops in the West: exclusively used to make **Everything** needed in the Apiary, of practical construction and at **Lowest Prices. Italian** Bees, Queens, 12 styles of Bee-Hives, Sections, Honey-Extractors, Bee-Smokers, Bee-Feeders, Comb Foundation, and everything used by Bee-Keepers always on hand. My Illustrated Catalogue FREE. **E. Kretchmer,**
16Etf **Coburg, Iowa.**
Mention the American Bee Journal.

Eaton's Improved **SECTION-CASE.**
BEES & QUEENS. Send for free catalogue. Address
FRANK A. EATON,
7Etf BLUFFTON, OHIO.
Mention the American Bee Journal.

ITALIAN BEES and QUEENS.

ONE Untested Queen, $1.00; 3 for $2.00. BEES by the Pound and Nucleus. Send for Price-List.
Address, **H. G. FRAME,**
9E13t **North Manchester, Ind.**
Mention the American Bee Journal.

WE will SELL CARNIOLAN QUEENS, reared in June, July and August, 1888, until further notice. Untested queens $1.00; tested, $2.00; tested and selected, $3.00.
ANDREWS & LOCKHART,
24Atf PATTEN'S MILLS, Wash. Co., N. Y.
Mention the American Bee Journal.

10 per cent. OFF

ON SECTIONS, from prices given in price-list. We make **four grades of COMB FOUNDATION — Heavy Brood, Light Brood, Thin & Extra Thin** for Sections.
☞ Send for free Price-List and Samples.—**Dealers,** write for special prices.
Address, **M. H. HUNT,**
Bell Branch, Wayne Co., Mich. (near Detroit).
Mention the American Bee Journal.
2Etf

SURE to send for our Circular before buying. Italian Bees by the lb., 2 or 3 fr. Nuclei, Queens, Foundation, &c. Unt'd Queens in May, $1; in June, 75c.; 6 for $4.
Jno. Nebel & Son, High Hill, Mo.
22Etf
Mention the American Bee Journal.

SMITH & SMITH

We have one of the largest

Bee-Hive Factories in the World.

☞ If you are interested in BEES, send for our Price-List—*Free.* Good Goods, and fair Prices. Address, **SMITH & SMITH,**
10Etf KENTON, Hardin Co., O.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. June 20, 1888. No. 25.

EDITORIAL BUZZINGS.

For every Evil under the sun
There is a remedy or there is none.
If there is one, try and find it;
If there is none—well, never mind it.

The Trial of Mr. Z. A. Clark, of Arkadelphia, Ark., is to come off about July 16, and the National Bee-Keepers' Union has engaged considerable legal talent, and we go to the trial in full confidence of gaining a substantial victory.

Mr. Jonathan Periam is again at the helm of the *Prairie Farmer*, for the past 3 or 4 years held by Orange Judd. The AMERICAN BEE JOURNAL extends a welcome, and wishes Mr. Periam and the *Farmer* abundant success.

Crates or surplus cases for holding the section-boxes should be made neat in form, so that they may be used as shipping-crates or retailing crates. Sections of honey well completed and nicely arranged in such crates will bear very rough handling, and will remain well preserved if the sections have not been removed after taken off.—*Ex.*

The Season is about a month late this year, and consequently everything seems "out of time." Still the prospects for a honey crop in some localities is considered to be excellent. Just as we go to press, the following expression comes in from Mr. M. O. Tuttle, of Osage, Iowa, showing that there, at least, the apiarists are buoyant and hopeful. He says:

The prospects are very encouraging here for a good honey flow. Last week I doubled up my colonies in order to lessen the number, and to get them exceedingly strong early in the season. Our season is 3 or 4 weeks late.

Tiering Up.—Concerning its advantages and the methods to be employed, Mr. W. J. Cullinan, of Kansas City, Mo., writes this in the *Farmer's Review:*

Tiering up.—Now we come to one of the nicest things connected with modern apiculture. By this plan we are enabled to secure 4 pounds of honey where 1 pound was obtained by the old method. The plan is briefly this: When the first case of sections is one-half or two-thirds filled, lift up and slip under it a case of empty sections; now watch close, and when the upper one is nearly completed, which can be ascertained by blowing a little smoke on the bees, and then looking down between the sections, lift up these two and slip another empty case beneath.

By the time the bees need more room, should the honey-flow continue abundant, the top case will be completed, and should be taken from the hive, when the others may be lifted and another case placed below. Be careful not to add too many at the close of the season, as you will get too many unfinished sections, and be sure to remove as fast as completed, that your honey may retain its snowy whiteness.

When removed store in a warm place and sulphur occasionally to kill any moth-worms that may hatch out upon the combs. The reason for raising the first case and placing the empty ones below, is that by this plan a vacant space is left between the brood and stores which the bees will take possession of more readily, and work all the harder to fill it up.

Another advantage is, that the finished sections being on top they are not so liable to be stained or soiled by the travel of the bees, and are more easily removed when finished. Those running for extracted honey can tier up in a similar manner, but the advantages are not so great as in the production of comb honey.

After-Swarms are prevented (says Mrs. L. Harrison, in the *Prairie Farmer*), in this way: "When they hive a swarm, they place it where the parent colony stood, having removed it to one side, and facing differently. All of the bees flying in the fields, will, as they return, enter and remain with the new colony. After a few days, commence gradually to turn the old colony around, until about the time of the young queens, when the entrances will be side and side. Then remove the old colony to a new stand, and all the bees old enough to work in the fields will remain with the new one, making a very strong working force. When the first queen comes out of the cell, she will destroy all the others, and swarming will be prevented. By thus massing all the working force together in one hive during a flow, much more surplus will be secured, then if divided into several hives."

From New Zealand comes this paragraph in our Australasian cotemporary for May, which shows how the AMERICAN BEE JOURNAL is valued in the Southern Hemisphere:

I must compliment Mr. Newman, the editor of the AMERICAN BEE JOURNAL, on the improved appearance of the new volume of that periodical, the first numbers of which have just reached me. It is printed on good paper, its articles are well written, and it decidedly ranks as one of the first bee-papers in the world.

Carbolized Sheet.—A correspondent in the *British Bee Journal* says: "The recipe given by Rev. G. Raynor for quieting bees in preference to smoke is:

1¼ oz. Calvert's No. 5 carbolic acid.
1½ oz. of glycerine.
1 quart of warm water.

The acid and glycerine to be well mixed before adding the water, and the bottle to be well shaken before using. A piece of calico, or preferably cheese-cloth, sufficiently large to cover the top of the hive should be steeped in this solution, wrung out dry, and spread over the hive on the removal of the quilt, when every bee will quickly disappear below, and manipulation may be slowly and quietly performed without annoyance from the bees. The same plan is effectual in driving the bees out of section-cases. From unsealed sections they often refuse to budge, but a little blowing through the strainer will always dislodge them. All of our sections are thus removed, and we have never experienced the slightest scent or flavor of the carbolic acid attaching to the comb or honey. This unpleasant result occurs only to bunglers, who either use too strong a solution, or do not wring out the carbolized sheet sufficiently dry, and so besprinkle the comb honey with the solution, and charge the evil result of their own stupidity on those who recommend the process. The strength of the solution quickly passes away, as the acid evaporates when exposed to the air.

Bees Take Possession of a House.—It frequently occurs in southern California that a swarm of bees take possession of a house, and fill the space between the lathing and rustic with honey, resisting all mild attempts to drive them out. The following is from the Tustin City correspondent of the Santa Ana *Blade:*

Sam Tustin has been having a war with bees. A half-dozen swarms had taken possession of his store building, occupied by J. W. Ballard, and threatened to hold it to the exclusion of its owners. And as the bees were very enthusiastic in their business, it looked as though they might stay, even though Sam had the first claim. Tustin, with an able assistant, first clothed themselves in complete armor of mosquito-cloth and heavy gloves, and, armed with an assortment of carpenter tools to tear off the rustic, etc., then, by the liberal use of brimstone and fire, made it warm for the pests. About two days finished one "houseful," and the boys had so much fight left in them, or wanted revenge, that they attacked a large colony in possession of the Presbyterian church, won the fight, and confiscated several barrels of honey.

The Nights have been so cool until last week, in this latitude, that work in the hives has been out of the question. As the season will be short, strong colonies will, in all probability, be the only ones to get much surplus, and but few are strong.

The Cincinnati Centennial Exposition opens on July 4, and closes Oct. 27, giving 100 exhibiting days. There will be reduced rates on all railroads. As to what the honey exhibits will be we are as yet uninformed. We hope it will be creditable to the pursuit. Of course our friend C. F. Muth will see that it is made such, for he never does things by halves.

GLEANS OF NEWS.

Father Langstroth.—It has been known for some time that the bee-keepers of America have been trying to provide him an annuity to help him to a subsistence in his old age and many infirmities.

Our brethren in Great Britain have taken hold of the subject, and here is what the *British Bee Journal* has to say about our aged friend :

There is, perhaps, no man living to whom the bee-keepers of the present day owe more than to the Rev. L. L. Langstroth, or, as he is termed by our American friends, "Father Langstroth." How often in the progress and development of a science or industry the pioneers (those who were amongst the first and who worked the hardest), very soon become forgotten. It is so in bee-keeping ; those who have done the most, and by their exertions have enabled many in the present day to become not only bee-keepers, but successful honey-producers, are forgotten and ignored. But this is not all, for those who have benefited by others' brain efforts and experiences are frequently those who do their best to crush them. Do we not find repeatedly that claims are made to inventions and improvements without regard to what has been done before ? Names of inventors, discoverers, and benefactors are frequently forgotten in the eagerness to benefit at their expense.

We might mention numbers of instances at the present day, where inventions are used with but slight alteration, and the users deriving a pecuniary benefit, whilst the originators, to whom the invention cost a large expenditure of brain power, many sleepless nights, and perhaps a large sum of money into the bargain, are completely ignored. We have a most striking instance of this in the case of the Rev. L. L. Langstroth. We do not wish to enter into the question of whether Langstroth, Munn, or any one else, was the first to invent the frame, but what we wish to point out is that Langstroth was the first to make the movable-comb hive a practical success, and by his work, "The Hive and Honey-Bee," which is still the standard on the subject, he opened up to the world the improved methods of bee culture, which have led to the enormous success witnessed at the present time. Does every bee-keeper realize that in using a movable-comb hive he is morally indebted to Mr. Langstroth for the benefit he is deriving from it ? And if he does, is he prepared to make some acknowledgment and return for this obligation ?

For many years Mr. Langstroth, who is now 77 years of age, has suffered, and only from time to time, and at long intervals, has he been able to take up with his favorite pursuit. We regretted that when we visited America last summer he was not in a condition to see us, and nothing would have given us greater pleasure than to have grasped this veteran's hand and looked into his benevolent face. Ever devoted to the science he loves so well, according to a friendly letter we received from him a few days ago, he was even then, during a period of convalescence, at the apiary of Mr. Heddon, studying the capabilities of the Heddon system. His head troubles have prevented him from earning his living, and it is because this master of bee-keepers has been robbed of his means of livelihood by some of those who have reaped the benefit of his labors, that he is not now, in his old age, in comfortable and independent circumstances.

From time to time small sums have been subscribed, and in 1879 "The Langstroth Fund" was started in America. In that year Mr. Newman visited England, and at a meeting of the British and Foreign bee-keepers, held at our residence in Horsham, a subscription was started, which amounted to about 6*l.* 6*s.*, the whole amount collected here and in America barely reaching 40*l.* Since that time small sums have been remitted to him, but how out of all proportion is this to to the benefits conferred by him on the world ! It is now proposed in America to raise a sum of money in order to purchase an annuity, and every bee-keeper there will have an opportunity to pay some tribute to his great leader.

But why should we stand aloof and do nothing ? On another page our correspondent, "Amateur Expert," in his pathetic appeal, says, "Let us, as British bee-keepers give practical expression of brotherly feeling by subscribing to the fund ; it will only stimulate his countrymen to do more, and make the annuity the greater." These sentiments we heartily approve, and think it the duty of the many who have benefited by Mr. Langstroth's labors to do something on his behalf, so that this good old man may pass the remainder of his days in comfort, cherished by the thought that there are noble and honest minds on either side of the Atlantic that do appreciate his efforts, and prove a brotherly love and feeling are ready to recognize them. We shall be pleased to open a subscription list to be called the "Langstroth Fund," and earnestly hope that our appeal will be heartily responded to. Let us bear in mind that "he giveth twice who gives in a trice."

Donations sent to us, or to Mr. Huckle, Kings' Langley, Herts, will be acknowledged in the *British Bee Journal*, and forwarded to America. The list of contributions is headed :

	£	s.	d.
T. W. Cowan	5	0	0
Geo. Neighbour & Sons	2	10	0
Rev. Geo. Raynor	1	1	0
W. Raitt, Blairgowrie	1	0	0
"Amateur Expert"	0	10	0
Geo. Henderson	0	10	0

"Amateur Expert" refers to the matter in these words, which find a ready response in all true American hearts :

Dear Editor, you have given us in last week's *Journal* the long letter in defense of the poor drone, from the pen of the one whom "all the States own." Blood is thicker than water, and the whole Anglo-Saxon race is one people, moreover, "one touch of Nature makes the whole world kin." The dear old man has been afflicted, and with the saddest of all sorrows—head trouble. He is so far restored as to be able to write what you gave us last week, but as an actual fact he is past work in the way of bread-winning.

He has been defrauded of the results of his brains by his fellow bee-brethren, from lack of power to defend his rights, and being worn out and in poverty they have decided to buy him a small annuity. Surely we can endorse the sublime words of C. Mackay :

"I love you, if your thoughts are pure ;
What signifies your poverty,
If you can struggle and endure ?
'Tis not the birds that make the spring—
'Tis not the crown that makes the king.
If you are wise, and good, and just,
You've riches better than all other !
Give me your hand—you shall—you must—
I love you as a brother !"

Let us, as British bee-keepers, give practical expression of brotherly feeling by subscribing to the fund ; it will only stimulate his countrymen to do more, and make the annuity the greater. What if the Maloneys, "Amateur Experts," and Heddons do occasionally have a "rough and tumble," let us show we are one mother's children by giving our mite. Here are two dollars to start, from—AMATEUR EXPERT.

Mr. A. I. Root, in relation to the unfounded statements put forth, that combs could be manufactured, filled with spurious honey, and capped over artificially, a statement that no intelligent man believes, writes thus to the *Farm, Field and Stockman* :

. It may be well to mention that the principal ground or foundation for the slanderous stories mentioned on the other side, is the fact that bee-keepers have, for perhaps ten years past, used extensively for the production of comb honey, what is called "comb foundation." It is made of thin sheets of genuine beeswax, embossed with the imprint of the bottom of the cells of the honey comb. This is made by passing wax sheets between embossed rollers, and lays out the work for the bees, and at the same time furnishes the wax to contain the honey. Each honey-box (or section) contains in its center, when placed on the hive, a sheet of this embossed wax ; and if these boxes are placed in the hive when honey is to be had in the fields, the bees grasp hold of the shallow walls of the cells and draw them up into honey-comb in the same way that a potter pulls up a ball of clay into a crock or jug. Nothing, however, will answer for this comb foundation but pure beeswax ; and the comb built from this wax is filled with honey brought in from the fields, exactly as if the bee had to secrete all the wax from its body, as in old time, before bee-culture had made the great strides it has now, and before it became a great industry, as it is now, comparing favorably with the production of butter, cheese, eggs and milk. Visit any progressive bee-man in your vicinity, and he will post you about this matter.

Breeding for Business.—The following item is from the *City and Country*, and was written by Mr. A. H. Duff. It commends itself to the judgment of all thinking apiarists. More attention should be paid to the matter of selecting the best colonies to breed from. He says :

Does it occur to bee-keepers that they should select their breeding stock ? I am well aware that quite a number of them do, but I am afraid there are many that do not. Should we not give bees the same attention in breeding that we do any other kind of stock ? If not, why not. It is just as important in breeding bees as it is any stock, to select and infuse new blood, etc.

There is scarcely any one that has given bees attention at all, but knows that some particular colonies far outstrip others in gathering honey, breeding, or in some other point. Some colonies are more inclined to swarm than others ; others are good comb-builders, and still others are better at filling for the extractor. Some colonies consume one-half less honey during the winter than others, and come out in better condition in the spring, others will breed up more rapidly, and far outstrip their superiors in early spring, while other colonies are inclined to rob, and are more bother than they are worth.

All dispositions and colors may be attained by breeding. The whole make-up of the colony, in whatever particular, is altogether in the queen. It appears that whatever point is the specialty in that colony, the whole colony inherits the same thing.

By breeding from the best honey-gatherers we produce a strain of bees that swell our honey crops largely, and to combine the best honey gathering qualities with the non-swarming strain, we still add to our crop, and when we combine those two good qualities with gentleness, we have much satisfaction in gathering the crops. Hence, to secure the coming bee it is necessary for a combination of the several good qualities, and there is no doubt that a much higher state of excellence will be obtained.

First Swarms for the season have a peculiar interest, and Mrs. L. Harrison gives the following to the *Prairie Farmer* as her experience with her first swarm for this season :

Bees have a very poor reputation for observing the 4th commandment, and I suppose we notice more when they swarm on the day of rest. On Sunday, June 3, our first swarm for this year issued. I saw them in the air, and finally they scattered all over the leaves of a green ash ; they did not cluster, thought better of it and returned to their hive.

This morning about half-past eight a neighbor called to me saying, " Your bees are swarming." There is nothing which so arouses my enthusiasm as to hear their tocsin note. It is like the sound of the bugle to an old war-horse, or the bag-pipe to a Scotch highlander.

On going into the apiary, I found that it was the same one that was on the wing Sunday, and I went up to the entrance to watch for the queen, hoping to catch her, but failed to see her. I inferred that she might be unable to fly, from some cause. As soon as the bees were out, I moved the old hive and put one filled with frames of comb in its place, so if they returned they would give up swarming, and if the queen was in the grass she would crawl back. They did not cluster, but came pouring back pell-mell in their hurry, like children running from room to room calling, "Where is mamma." It is a pity that this bee had not been called mother instead of queen.—[" Mother " is the correct name.—Ed.]

This swarm had hardly returned to their hive when another came pouring forth from its hive, as if driven out by some unseen power, and in lieu of clustering, came to the first one. Why they came there I could not imagine, as there were very few of the first ones in the air to attract them. I covered up the first swarm with my apron, to keep the others out ; and finally carried them to a new stand.

I soon noticed however, that they were not satisfied, running around and touching the antennæ of their fellows, enquiring for mamma. Here was a pretty kettle of fish ; a swarm entering a hive placed upon the former stand of the first swarm, while it was deserting its hive and returning. In despair I went to the house to write this paper, telling them to arrange matters to suit themselves.

After awhile I laid down my pen to go and see how matters were progressing. I found one queen balled, and while trying to rescue her she was stung to death. To be certain of a queen in this hive, I now opened the old colony which formerly stood there, and took out a frame upon which was a sealed queen-cell, and put it into the hive. If they have a queen it will do no harm, and if they have not, they will soon have one.

The first swarms that issue are the best bees ; that is, they have a prolific queen—if they did not, they would not be ready so soon. If they are nice, bright bees, I like to save as many of the queen-cells as possible, for queens reared under the swarming impulse are thought to be the best. Acting on this principle this morning, I opened the hive that had swarmed, and found a number of large, well-built cells. I took out a frame that had a nice cell, and capped brood, and covered with bees, and put it into a hive with another frame of honey, and put in a division-board. As the bees have no queen, they will remain ; the queen will be out in a few days, and become fertilized.

Where frames of brood and bees are removed from a hive having a fertile queen, so many bees will return that there will not be enough left to perform the work for the brood. Therefore it is a much better way to divide up a colony that has swarmed, and has choice queen-cells, as I have done. If there are a dozen choice cells in a hive, and the bees decide not to swarm, the cells are all destroyed. And there is no way to preserve them, and have the young queen fertilized, but to have one in a hive. The cells can be preserved by being cut off and put into queen-nurseries, but they must be with a colony of bees, either large or small, or they will not become fertilized.

INTERROGATORIES.

Nevada Honey-Plant.—Mr. G. W. Cover, of Downieville, Calif., sends the following :

I send a specimen of one of our honey-bearing shrubs in the Sierra Nevada range for name. Bees are booming, and honey is coming in fast.

This Californian plant is *Chamæbatia foliosa*, (Benth), a shrub belonging to the rose family, but having no near relatives in the country east of the mountains. No common name is known to the writer.

Sundry Questions.—W. W. Morse, Worthington, Dak., on June 9, 1888, asks the following questions :

I have just started in bee-keeping. I have one colony of Italians, and would like to ask a few questions ; will you please to answer them in the AMERICAN BEE JOURNAL :

1. I have an artificial grove. Would it be best to put the hives in the shade, or out in the open ground ?
2. How high from the ground should they be ?
3. Will they get the honey from white clover if it is with timothy grass, or would it be better alone ?
4. Is buckwheat honey as good as any other ?

1. A *little* shade would do, but it would be better out in the open ground than in too much shade.

2. There should be but little space under the hives, if any. It is so difficult for bees loaded with honey having pitched, to rise again and get into the hive, or up on the alighting-board.

3. Yes. The timothy will not be any disadvantage.

4. No ; it is of the poorest quality—dark, and not fit for modern table use.

Painting Hives—When to Clip Queens' Wings, etc.—Mrs. Mary Blachly, of Delta, Colo., on June 1, 1888, requests answers to these questions :

I should like very much to ask some questions which I have been unable to get answered, and I thought as a last resort that the BEE JOURNAL would not fail to do so, as it can answer anything asked in regard to bees, I believe : 1. Should hives be painted different colors ? My hives are all white. I lost a queen, having gone into the hive next to it, and the bees carried it out a few hours after, dead. 2. What colors are best ? 3. Should virgin queens' wings be clipped ? and how can one know when to clip the same ? 4. In S. A. Shuck's article, on " How to Rear Good Queens," on page 344, he speaks of opening sealed larvæ, and in the same article he says : "And the food from the cell from which the larvæ were removed, can be given to larvæ not yet sealed." How should sealed larvæ be removed ? 5. Is it necessary to remove it when pollen is plenty ? 6. For a nucleus to keep queens over winter, how many frames of bees are needed, and how large should the frames be ; should there be empty frames put in with each queen's brood-chamber (or apartment) ?

1. Yes ; it is better to paint them of different colors, because it will aid the queens to find their proper hives when returning from their wedding excursions.

2. Red, white and blue alternated present a good appearance.

3. Virgin queens should *not* have their wings clipped, else how are they to go on their wedding trip. When they return from that trip, the successful fertilization will be apparent to the observing person. Then their wings may be safely cut.

4. Will Mr. Shuck please answer this and the two following questions, as the method there described is his own ?

Mustard as a Honey-Plant.—W. H. Prior, of Madison, Ga., on June 9, 1888, asks the following questions :

I have three rows of white mustard across a square in the garden, which has been in full bloom for a week past, and the bees are very busy on it every morning, for several hours, since it came into bloom. 1. Is mustard a honey-plant, or is it pollen the bees are gathering ? The mustard blossoms are literally covered with bees till two or three hours after sunrise. 2. Do bees ever remove eggs or larvæ from one cell to another, or from one comb to another for the purpose of making queen-cells and rearing queens ?

1. Wild mustard (*Sinapis arvensis*) furnishes excellent honey. It is very light in color, and of excellent flavor. It commands the best market price, when put up in desirable packages. It is a great favorite with the bees.

2. Yes ; eggs are removed by the bees, when forming queen-cells, from the cells destroyed to the reconstructed and enlarged ones made for rearing queens.

Botanical.—Wm. G. Cory, of Carson, Ind, on June 4, 1888, writes as follows :

I send herewith for name, a sample of a plant that grows on low, wet lands, about 2 feet high, and in many places the ground is white with it. Bees are swarming on it from morning until night. No one here knows the name of it. Bees are doing well so far, but the prospect is very poor for a crop of honey, as the white clover as well as all other clovers was killed last winter.

This is *Phacelia purshii*, a noted honey plant belonging to the water-leaf family. *Phacelia* is the common as well as the scientific name.

To Prevent Bees Robbing one another's hives, contract the entrance to the smallest space possible, as it compels the robbers to pass in singly, thus enabling the bees inside to repel them.

QUERIES AND REPLIES.

Excessive Swarming.

Written for the American Bee Journal

Query 552.—How can excessive swarming be checked or controlled?—Maine.

By using large, roomy brood-combs and hives.—J. M. HAMBAUGH.

By giving plenty of room, usually, but not always.—A. B. MASON.

Kill the queen, or get Mrs. Cotton's controllable (?) hive.—MRS. L. HARRISON.

A good honey harvest will usually do it. Aside from this I do no know. —G M. DOOLITTLE.

It depends upon circumstances and location. Give plenty of room, and use young queens.—H. D. CUTTING.

By the use of the extractor. By proper manipulation where comb honey is produced it can be lessened.—A. J. COOK.

Destroy all the queen-cells in the old hive, and return the second swarm.— C. H. DIBBERN.

An answer to this query would require more space than this department allots. It can be checked by the extractor, removing frames of brood, cutting out queen-cells, etc.—J. P. H. BROWN.

Give plenty of room to store honey and for breeding, and plenty of ventilation at the top of the hive as well as at the bottom. I *know* whereof I affirm.—M. MAHIN.

If you mean first swarms, it is a pretty hard matter, in spite of all theories set forth. If after-swarms, destroy all queen-cells except one.—P. L. VIALLON.

By extracting the honey from the brood-chamber, and usually by cutting out all queen-cells but one, on the seventh day after a prime swarm has issued.—G. L. TINKER.

I suppose one swarm from each colony would not be called excessive. Further swarming can be prevented by hiving the swarm in a new hive on the old stand, removing the old hive, and cutting out all queen-cells but one good one, five or six days later.— R. L. TAYLOR.

If you mean to prevent the desire to swarm, keep all the honey extracted. I do not believe any one knows how to do it profitably, when working for comb honey.—C. C. MILLER.

This question is one of those that relates so much to localities that a general answer can be of no value. A special answer, to be of value, would require more space than can be given here.—J. E. POND.

Get the back numbers of the BEE JOURNAL, and read the long essays on the subject. This question requires too much space for an answer, to be adapted to the Query Department.— JAMES HEDDON.

You may check it by giving the bees plenty of room before the swarming fever takes the bees, and continue to give them plenty of room by the tiering-up system, until the swarming season is past. But you cannot usually hope to control swarming.—G. W. DEMAREE.

1. By giving ample space for comb building early enough in the season to retard the desire to swarm. 2. After the first swarm issues, so manage that there will be no after-swarms, by getting all your working force in the new hive, and give *them* so much to do that they will not have time to swarm again. —EUGENE SECOR.

Establish early in the season the *storing habit*, and when once established, keep it encouraged by frequent inversions, and giving plenty of storage room at all times. There is something about this that an expert can do, but which it is difficult to communicate. Large hives do not do it, although they assist. Particularly empty brood-nests do not accomplish it, but they also assist. Good management does it every year, but that would require another book, and I have neither the time nor ability to write it.—J. M. SHUCK.

This question cannot be satisfactorily answered. Swarming can usually be checked by giving room, or extracting the honey, but as a rule it cannot easily be controlled.—THE EDITOR.

Bee-Spaces and Honey-Gathering by Divided Colonies.

Written for the American Bee Journal

Query 553.—1. Is a bee-space in the centre of a horizontally-divided brood-chamber a disadvantage? 2. Will a very strong colony in a large hive store as much comb honey as the same number of bees divided into 2 colonies in hives proportioned to their size, other conditions being the same?—Indiana.

1. No. 2. I think so.—A. J. COOK.

1. I suppose it is. 2. I think so.— C. C. MILLER.

1. I do not know. 2. They will, and more.—MRS. L. HARRISON.

1. It would be for me. 2. Yes.—H. D. CUTTING.

1. Yes. 2. Not if the two are crowded for room in the brood-chamber.—A. B. MASON.

1. I think so. 2. Yes, more.—J. M. HAMBAUGH.

1. I think not. It has some marked advantages. 2. Not only as much, but more.—M. MAHIN.

1. I do not know. 2. With me a strong colony will store more.—P. L. VIALLON.

1. I do not know that it is. 2. I think they would.—EUGENE SECOR.

1. I should say it was. 2. The strong colony if in not too large a hive. —J. P. H. BROWN.

1. Yes, most emphatically. 2. Far more, in my own experience, and I have tested the matter to quite a considerable extent.—J. E. POND.

1. Yes. The bees try to fill it up. 2. It depends on the prolificness of the queens, race of bees, and condition in the spring, etc.—DADANT & SON.

1. Certainly not. Why do our bees breed so fast and winter so well in box-hives full of cross-sticks and bee-spaces until the combs are all in pieces? 2. No, not if the hive is very large. There are extremes both ways. —JAMES HEDDON.

1. I think not materially. 2. I want the large colony every time, but do not want frames too deep. Still, this question will bear investigating. I like big colonies in medium-sized hives.— C. H. DIBBERN.

1. I have never found it to be a disadvantage, but often an advantage. 2. Sometimes as much, sometimes more, and sometimes less, depending on what the other conditions are. For instance, if the season passed with a short, heavy flow, the strong colony would store much more than the others, while if the season were much extended the others might store the more.—R. L. TAYLOR.

1. Reason would say that it would be better for bees to "brood" cells of eggs, larva and nymphs, to empty space and sticks of wood. What say you? Will a hen hatch chickens out of wooden eggs or empty space, if in the nest with her eggs? and had she not better sit on hens' eggs than on either of the other, for the good of her owner? What will hold good with the hen holds equally good with the bees. 2. I should prefer the large colony in a small brood-chamber during the honey harvest.—G. M. DOOLITTLE.

1. I think that it is, and my observations again this spring confirm my previously recorded views. 2. Strong colonies, other conditions being the same, always store the most honey, either comb or extracted, but if such colonies swarm, and the season of surplus is protracted, they will store more than those that do not swarm.—G. L. TINKER.

1. It is not a disadvantage to the bees, but is a nuisance to the bee-

keeper. The bees soon modify such a space by filling it to suit themselves. If it is to remain thus filled, and not broken, it is not needed. If it must be broken apart, it will be found not only useless, but an obstacle. I have been trying them thus for ten years, and I know. 2. Sometimes they will, and sometimes they wont. Rules cannot be applied to bees.—J. M. SHUCK.

I have used shallow cases tiered one on the other for brood-rearing, as an experiment for a number of years, and the plan has too many defects to be pointed out in this limited space. As to the bee-space between the shallow brood-chambers, the bees in course of time will attend to that by filling it with bits of comb, and they will economize space by hanging queen-cells into it like a row of teats on the nether side of an old suckling sow. Allow me to ask you, if the hive you speak of is "a horizontally-*divided* brood-chamber," how about it when it is not divided? 2. Yes, and more.—G. W. DEMAREE.

1. No. 2. Probably they would.—THE EDITOR.

CORRESPONDENCE.

COMB SURFACE.

Calculating Hive Capacity, the Number of Cells, etc.

Written for the American Bee Journal
BY JOHN H. WIEDMAN.

I am not in the habit of contributing anything to the bee-literature of our country, but I cannot refrain from sending you this to correct an error which nine-tenths of the bee-keepers make in the bee-periodicals in speaking of the comb surface which a bee-hive may contain.

On page 364 of the current volume of the BEE JOURNAL, Mr. Jas. McNeill has come to the conclusion that a brood-frame of 10¾x10¾ inches, inside measure (the size Mr. Doolittle uses), contains 115 square inches of comb surface, and that it would, therefore, take eleven of these frames to enable the queen to lay 3,000 eggs a day during the breeding season, without leaving any room for pollen or honey.

Now, as Mr. Doolittle only uses nine of these frames in his brood-chamber, and finds that these give his queen a capacity for 3,000 a day, besides room for pollen and honey, it seems strange that it should not have occurred to Mr. McNeill that each of these frames presents a comb surface of 230 square inches, 115 square inches on each side, and nine combs would contain 2,070 square inches, or 103,500 cells, or 40,500 more cells than would be necessary to furnish 3,000 cells for the queen a day.

On page 327, in his article, Mr. Doolittle reckons on the same basis, giving credit for only one-half the comb surface his hive contains.

It must be a well-known fact that nearly all our writers in the bee-papers use this same method. It seems to have become a custom among bee-men to employ this method, but I think that they should use the proper basis, as this is not correct, and as I see it, cannot be defended on any grounds whatever.

It seems strange how this method should have come into vogue, of measuring only one side of a frame in calculating the number of square inches of comb surface it may contain.

Riverside, N. J.

INCREASE.

How to Prevent it, when it is Not Desired.

Written for the Canadian Bee Journal
BY D. A. JONES.

This is the subject that is attracting considerable attention, and all information is being eagerly sought after. There are a great many bee-keepers who have all the increase they require, and would prefer a larger crop of honey with less increase. At seasons of the year when the weather is suitable, with a moderate flow of honey, more especially if the honey is thin that is being gathered, and about enough to stimulate breeding and swarming, bees sometimes get the swarming fever, and swarm they will, after they get thoroughly started, apparently in spite of all efforts to prevent them.

There are various methods practiced by different bee-keepers, all with more or less success according to locality, season, etc. Yet, what does in one locality is often the reverse of the practice most desirable in another. This makes all the difference, or frequently much of it, with the various managements of different bee-keepers; for instance, a bee-keeper in the southern or middle States, or southern Canada, might give special instructions for a certain kind of management which would prevent increase in his locality, while further south or further north this would not be suitable; another point is the variation in the honey season. Some have one continuous flow, while others have several flows of longer or shorter duration. Some have a long dry space in midsummer, and no honey then to be gathered, while others at the same time are reaping a rich harvest in comb and extracted honey.

Therefore, if we told those to extract the honey from their colonies, or remove the sections at that particular time when their bees were starving for the want of stores, such instructions would appear ridiculous to those living in a locality where no honey was coming in, and *vice versa;* therefore, judgment must be exercised in all matters of this kind, and all things being satisfactory, the season, flora, weather, and everything that tends to affect the management in any way should be carefully taken into consideration.

We shall speak of our own locality, and while speaking of one of our methods of preventing incoease, we are not sure that we will not have a better one before the season closes, as this is a subject we have been experimenting on considerably for years.

Last year we gave it a very thorough test, and we are satisfied on one point, and that is, in order to keep down increase, it is absolutely necessary to give the bees room from time to time; that the colony may not be overcrowded, they must have all the space that they can possibly occupy; that the queen should be kept in the small brood-chamber; that perforated metal should be used to prevent her from occupying any more room than you desire she should (that is, as soon as the honey harvest commences she should have less room to occupy for egg-laying than she had previously). This curtailing of the laying of the queen assists in keeping down the swarming fever.

Where section honey is taken in the earlier part of the season, the supers should be raised as fast as they are occupied, and others placed under them until there are as many supers as it is possible for the bees to occupy. About once a week it is well to look over those which you suspect are liable to commence queen-cells and prepare for swarming, and remove any such cells, giving them a little more room by putting on a super. This will assist in keeping down the swarming fever.

If extracted honey is being taken there may be from two to six supers with combs placed on, according to the strength of the colony, but those should not always be placed on at once. According as a colony increases, a super may be added, in from three to six days, and in each case by raising the one next to the brood-chamber. Putting on the one with combs or frames filled with foundation next to the brood-chamber causes them to

commence work in it sooner. In this way very large crops of extracted honey may be taken, but the hives should be kept cool.

We do not care to set ours more than 4 inches from the ground. The honey should be extracted as fast as ripened, and if the swarm issues it may be returned, two or three of the brood-combs taken out of the brood-chamber and put up in one of the upper hives where the brood will hatch. By putting two or three empty combs in their place, thus giving the colony more room, will usually cause them to remain. We had many colonies last year occupying over 10,000 cubic inches of room.

After the honey season began to close, and there was very little honey coming in, we tried an experiment to see if it would give them the swarming fever, or if they would build queen-cells—by taking off the top supers and crowding them down. This proved just what we anticipated. In taking off the supers where comb honey was being gathered, and any signs of queen-cells appeared, removing one or two supers, and crowding the bees down, caused them to start queen-cells at once. In one instance, by removing all the supers containing sections, and crowding them down, we thought they were nicely settled in the hive, but the next day they made preparations to swarm ; in fact, one of these immense colonies we found was just the place to rear a lot of good queens. One occupying say 10,000 cubic inches crowded down to 5,000 would build a large number of fine queen-cells, and we were able to create the swarming impulse, when such did not exist previously to the crowding.

We once were acquainted with a party who prepared a special place for bees in a building. Each place was about 3 feet square, or over 40,000 cubic inches. Although he had a number of these places all along the side of a building, and each one contained bees, and were very strong, each working out on a spout of their own, they were so arranged that the rays of the sun did not strike on them. The hives always kept moderately cool in summer, and fairly warm in winter. Some of these apartments were filled with comb and honey, others were not filled at all, but there was no swarming for years. If our memory serves us rightly, we think there never was more than about one swarm issued, unless some did so unknown to the owner; but we scarcely think that would be likely.

We have known other instances where the apartments were not quite so large, and the bees swarmed after filling them. Now the points seem to us to be, giving them room at the proper time, not allowing them to become overcrowded, but only continuing to keep them in a prosperous condition, adding room in proportion to the strength and increase of the colony. Better give them too much room in the honey season than too little when the surplus has to be taken by the extractor.

Another point is, if the supers are allowed to become capped over, or nearly so, before the honey is extracted, they are also liable to swarm, but as soon as one is capped, it may be extracted and set away and another put in its place. Some might argue that this required a large stock of combs, but these combs are a good investment, and at any time when desired, they can be used for increase.

Just here comes a point that has something to do in the matter. After the queen is being crowded up and given less room for egg-laying, the increase enables every worker to do its best towards gathering the crop. Now this excessive work wears out the lives of the old bees much faster, and they die much sooner than they would if they had their hives filled with honey, and had only to lay out on the hive to rest themselves.

Thus it will be seen that the breeding space is only large enough to keep up with the mortality of the hive, and the rapid increase in the colony does not appear on account of the extra comb given them. Then in a short time the mortality becomes as great or greater than the increase, and this, we think, is a point that has much to do with keeping down the swarming fever.

Should the honey crop be an average one, at the end of the season the colony is not as strong in bees as they were at the commencement. This system of keeping down the production of bees, and of having a large number of young bees hatching after the honey harvest is over, is one that should be practiced at least in this section, as it saves a large amount of honey that would otherwise be consumed in brood-rearing, which, as we have said heretofore, is quite unprofitable at this particular season.

LEGISLATION.

The Survival of the Fittest, the Right to the Soil, etc.

Written for the American Bee Journal

BY WM. J. WILLER.

Mr. Camm as witness (not supreme judge) for the defense of the present way (not system) of gathering nectar, gives his evidence on page 346.

Some claim that it would be a monopoly. If it is a monopoly to have partial control of a part of this country, then I am a monopolist, for I have partial control of a farm, the United States of America being the other party.

Others say, leave it to the survival of the fittest—fittest what? I think that Mr. Camm gives us a good idea of what is really meant, when he mentions leaving it to the winter to kill off those not able to stand the drouth, or in other words, "the survival of the fittest." I do not think that the present way shows who is the fittest.

We will suppose that Mr. Heddon (and no one doubts but what he has ability) owned only 100 colonies of bees, money enough to run him one year, and pasturage enough within reach to pay him for handling the bees.

Now there may happen to be a few farmers and men in other occupations who conclude to dabble in honey. They own in all 200 colonies in log-hives. Flowers, by their gay attire, advertise for workers ; their motto being, "First come, first served," whether from the Heddon hive or log-gum.

Mr. Heddon secures only one-third of the nectar, it being barely enough to keep the bees. He sells out and leaves it to the survival of the fittest. But a doctor, lawyer, any other professional, or tradesman (we farmers are protected) would not need protection, for his employers would have it in their power to withhold the work from others if he was the fittest man.

If A was a doctor of ability, with a good practice (bees in Heddon hives), and B a quack doctor (bees in log-gums) who undertook to run A out, A's patients would say, A is a better workman than you, and he is the man that will do the work (fertilizing).

If a man succeeds in bee-keeping, he must have ability, but a man with more bees than brains, may succeed in crowding a fitter man out, and be no better off himself. If the legislature had left this country undivided until plants had stopped wandering in search of plant food, it would have been undivided yet ; but being divided we may have our farm all into elm trees (I know they will go 4 rods each way, and I think they will go further for food), and still our next neighbor has some chance to succeed. But where would he be if all the plant-food were free to all, and he sowed wheat on a piece of land to gather the nourishment, and some one else sowed oats on the same land, and so on *ad infinitum?*

This may be a crooked evidence, but I have not been positive where I could prove nothing.

Sandusky, Mich.

STEALING HONEY.

A Grizzly Bear Caught in the Act.

Written for the Youth's Companion

BY A. WRIGHT.

The Holden brothers, Roswell and Frank, went to California from a New England town in 1881, for the benefit of Roswell's health, upon medical advice; and subsequently they found themselves engaged in the business of bee-keeping near Los Angeles — for circumstances, accident rather than design, first led them into it.

The children had inherited a constitutional tendency to pulmonary diseases, which had already begun to develop itself in Roswell. Indeed, he had become so far an invalid that his friends deemed it unsafe for him to set off on so long a journey alone. After many family deliberations it was arraged that Frank, and Ellen, their sister, should accompany him. and remain one winter, if not longer, in the West.

As their means were limited, Frank and Ellen began, soon after arriving in California, to look about for some way to earn a living. Roswell, too, as his health improved, wished for something to do; and at length they were, by chance, led to buy 13 colonies of bees of a lady—herself formerly an invalid—who had employed her leisure in apiculture, but now was about returning to her home in New York.

With these 13 colonies the young Holdens entered upon the honey-producing business early in 1882. For a year they resided in the vicinity of Los Angeles, but finding that the bees, as the number of colonies increased, were unpopular among their neighbors, they were led to move from so thickly inhabited a district, and lived for a time near Majave.

Thence, however, early the following spring, they again moved to a tract of unoccupied country further back among the mountains, in a kind of long defile, or crooked valley, inclosed by a wooded range on either hand, but which, from the great abundance of wild flowers, affords good pasture for bees. Here they are at present dwelling.

The Holdens have now between 200 and 300 colonies, having made it a rule, so far, to keep all the swarms which come out, though a few have escaped. The care of these numerous colonies of bees occupies all their time and attention, and they hired two Indian girls to assist them to watch the numerous sub-apiaries which they have established in different parts of the valley, generally within a mile of each other. For it will not do to have all these 200 colonies, or more, collected near one spot, on account of the supply of flowers being over-fed, and the bees having to go too far.

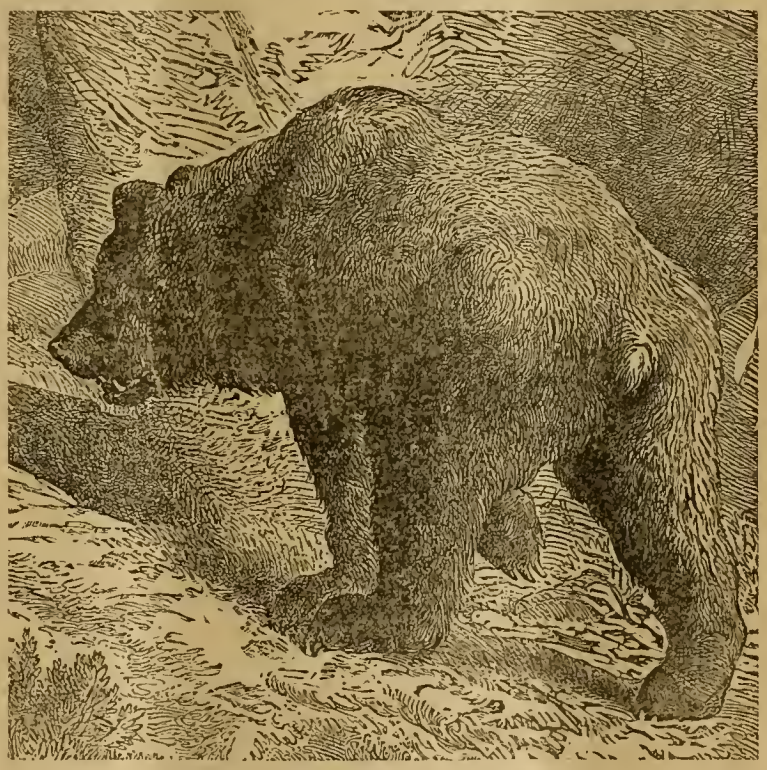
The whole number of colonies is divided up into groups of 10 or 15 colonies, and these are often shifted from place to place as the season passes.

For moving colonies to fresh pasturage, the boys have a platform set upon four wheels, and drawn by two steady mules. Then, after the bees have entered the hive at night, they are closed in, and the hives are transferred to the platform. Very carefully then, and slowly, so as not to jar the hives too much, the transportation of the colonies to the distance of a mile or two is effected.

In March or April of last year the Holdens had pastured out 10 colonies at a point higher up the valley than any they had previously occupied. In point of fact, the new pasture was in a branch of the main valley. Hither they had come up from their bee-sheds next below, two miles distant, with a load of hives, and built a "rest" for them near two large oaks—great trees with wide-spreading branches that nearly touched the ground—on the north side of the intervale, at the foot of the mountain.

It was a favorable location, for on the south side the bees had the entire valley, well stocked with flowers and flowering shrubs, outspread before them; and so secluded did the place seem, that the young apiarists judged it entirely safe to leave the bees to gather honey here, unguarded, for a few days at least.

Having seen to it, therefore, that the hives were well placed, they returned down the valley to their shanty-house, where their sister and the Indian girls looked after the few simple domestic affairs of the household. In fact, it was their custom thus to colonize a new pasture, and they had met with few losses. Honey in small quantity had been stolen from them on one or two occasions, and once a number of deers, in their flight across the valley, had upset three or four hives.



The Grizzly Honey-Eater of California.

But on this occasion they met with a mishap; for on going to the place two or three days afterward, to see how their swarthy "Italians" were prospering, Frank found one hive upset, and another of the ten missing altogether. From the latter circumstance, as also from certain marks and traces in the grass, resembling footprints, he at once concluded that some thief had "jumped" the hive—that is stolen it bodily.

A few days before they had heard the report of a gun several times, faint and at a distance, and had conjectured that there was a hunting party, either

of whites or Indians, on the other side of the mountain.

"Some of them have probably been spying about and got their eyes on that row of hives," was Frank's thought.

Whether the rogues would rest content with the honey of one hive, or come back after more, was what no one could guess. The brother, however, deemed it prudent to expect them again, and would have gone up and drawn the remaining hives down to camp, if the two Indian girls had not been sent down to the post-office—a little settlement twelve miles away—with the mules, to get the mail and a stock of groceries.

Roswell, therefore, proposed that, after supper, they should take a little shelter tent which they had, and go up to the new rest, in order to pass the night where they could guard the hives. For by this time the older brother had so far recovered his health as to be the stronger of the two.

As Ellen did not like to be left entirely alone, she proposed to accompany them. They accordingly set off, taking along the tent, three blankets, and a Wincester earbine.

Arriving at the rest just at dusk, they pitched their little shelter tent near the trunk of one of the oaks already referred to, and in such a manner that the ends of the drooping branches nearly or quite concealed the tent from view.

The night was warm, and the place was quite dry. Accordingly they did not kindle a fire, but made themselves comfortable with their blankets under cover of the tent, and the sheltering foliage of the tree.

They had really no serious expectation that the thief would come back; and after a time all three of them fell asleep, for Ellen Holden had become quite accustomed to this free, out-of-door life. They slept thus for three or four hours.

During the early part of the night there was a moon, but the moon set about midnight; the stars, however, gave some light, though everything was rather misty and dim. The now somnolent and quiet hives reposed on their rest, a few yards from the tree and the tent.

At length the sleepers were suddenly roused by a heavy thump, followed by a grating noise and a deep humming sound from the hives.

They all started up and listened intently.

"Something's afoul of the bees, Ros," whispered Frank.

Roswell, starting up, took the Winchester and peeped out amongst the oak branches. What looked like a tall, "slouching" man was in the very act of taking one of the hives in his arms, despite the loudly buzzing bees. As Roswell stared in astonishment, the sturdy pilferer did actually clasp his arms about the hive, and raising it off the rest, started to walk slowly off with it.

"It's some Indian, I guess, by the looks of him," muttered Roswell. "I don't just like to fire at him; he don't seem to have any gun. But let's 'go' for him and give him a good thrashing."

Frank agreeing at once to his proposition, snatched up two stakes which they had cut for the tent, and handing one of these to his brother, who laid down the rifle, both young men ran quickly, but stealthily after the heavily-loaded thief, who was shambling awkwardly on across the open ground, beyond the rest.

The grass was thick and soft, and they were not long closing in with the marauder.

"You scoundrel!" yelled Frank. "Lug off our honey, will you?" and drawing off with his stake, gave the thief such a tremendous whack across the back and shoulders as to knock him half-forward over the hive.

"Take that!"

Drawing off again, he was about to repeat the dose, and Roswell on his part was just getting in a blow, when the supposed "Indian" suddenly came around on all fours, and give vent to a growl which made the whole valley re-echo.

It was a grizzly! and as he growled, he rose on his hind legs and "lunged" at Frank.

Prodigiously astonished, Frank gave a long jump backward—not so far, however, but that one of the ugly creature's paw raked along his right side and sent him rolling over and over again on the ground.

Roswell, too, had executed an almost equally long leap backward, and ran plump into Miss Holden, who, with commendable foresight, had come quietly after her brothers, with the Winchester in her hands.

"Here, quick, shoot!" she exclaimed, thrusting the loaded piece into his hands. Turning on the instant, Roswell fired one, two, three, four shots into the bear, now in the very act of lunging again at Frank, and with such effect that the animal fell, roaring and whining, unable to rise for another lunge.

A few more shots finished it.

Frank, though considerably bruised and shaken up, was not seriously injured.

"Ellen," exclaimed Roswell, turning to his sister, when the bear had been fairly floored, and Frank had picked himself up, "Ellen, you're a brick! You got around just in the nick o' time!"

"Well," said she, laughing, "when two fellows go after a grizzly with a couple of sticks, it's a good plan to have a Winchester not far behind."

WINTERING BEES.

An Experiment of Wintering Bees Under a Straw-Stack.

Written for the American Bee Journal

BY ANDREW UTZ.

I have been thinking of wintering bees under a staw-stack, for years, so last fall I set up six posts 7 feet high, and made a space 8x14 feet covered with lumber. Then to make it perfect, I made a "flue" of lumber, 3x4 feet at the bottom, and 6x8 inches at the top. Then I set this "flue" above the posts which I thought would draw all the dampness out, and then built a narrow gangway to carry the bees in and out.

Then when I threshed I had five men on the stack to have it well packed; when the stack was finished it measured 28x50 feet, and 40 feet high. The narrow sides were 10 feet on each side, and the ends much thicker. They all thought that it would be just the thing to winter bees in.

On Dec. 20, 1887, I put 27 colonies in the stack; then I packed the gangway well with straw, and closed it with a tight door on the out-side.

On March 31 I took them out; 14 colonies were alive, and 13 were dead. But such hives and combs I never saw. My poor pets had a hard time; I suppose they had the diarrhea nearly all winter. It made me sick. The combs and hives were moldy and musty, so I put them in clean hives and fed them on syrup made from A sugar. They all had plenty of honey, but I did not think it was fit for them to eat. One lost its queen, so I put two together, and since then I have given each two frames of brood, and yet they are weak. Since then all but 9 have died.

I would not have written this, but I was at Columbus last winter on business at the time of the Bee-Keepers' Convention, but could only be at the convention one-half day, so I asked whether any one had ever wintered bees under straw, but no one had. Mr. Boardman said he would be afraid to try it. His head was level on that. Dr. A. B. Mason said I might do it and report.

By my doing so I hope that none of my brethren will be so cruel to their pets as I was. We cannot control the temperature under straw. After Mr.

Boardman nearly scared me, when I got home I got two thermometers, and let one down through the flue from the top of the stack among the hives to test the temperature. The other one was placed outside, in the open air, only covered to keep it dry. Now I will give the temperature as I took it day by day :

	UNDER THE STACK.	OUT-SIDE.
Feb. 26	40	30
" 27	12	12
" 28	10	11
Mar. 11	38	33
" 12	31	29
" 13	12	13
" 14	43	42
" 18	33	31
" 19	29	29
" 20	60	59
" 21	40	31
" 22	19	11
" 25	22	19
" 26	61	61
" 30	39	41
" 31	60	60

I left 38 colonies on the summer stands. Of these, 2 starved, but the rest are all in good condition, and have from 5 to 8 frames of brood. Of course I could not help taking from the rich and give to the poor pets that were under the straw-stack. We had plenty of fruit-bloom this spring, but on account of the cold weather, bees could not work on it more than about two days in all, but yet they are doing well.

Kenton, Ohio.

SMOKE.

Its Value in the Modern Management of Bees.

Written for the Bee-Keepers' Guide

BY T. F. BINGHAM.

When honey was at the highest price ever known in this country, viz., from 1863 to 1866, little use was made of smoke by the greater number of bee-keepers.

Even Roswell C. Otis, the veteran who mainly introduced the Langstroth hive in New York and the West, only used a cigar in his demonstrative work.

It is true that Mr. Langstroth had explained the action and value of smoke in the control of bees, and the principle on which its effect rested, in his most efficient work, "Langstroth on the Hive and Honey-Bee."

Hunters of bees had used burning straw about bee-trees when cutting them down, and found the cloud of smoke a protection against stings. But the main conception of the value of the smoke in the management of bees was associated with the common pipe or cigar. This fact, no doubt well based, came from the prompt action of tobacco smoke—an action more efficient than any other smoke, and also more convenient with the means then in use, especially when the bee-keeper was a tobacco smoker. (And such habit was likely to prevail with bee-keepers whose aversions to the habit of smoking were not strong.)

The invention and application of the direct-draft principle in bee-smokers at once revolutionized the management of bees.

Tobacco smoke was no longer of value, because more condensed and in use by pipe and cigar smokers. The great abundance—a cloud of smoke enveloping the user of a Bingham smoker—and the fact that such a smoker never went out—and that smoke in clouds could be instantly applied to bees—at once supplanted the tobacco pipe and cigar in their management.

While it is not the province of this article to discuss the tobacco habit, the direct-draft smoker plays an important part ; as there is no excuse for a bee-keeper smoking tobacco, so far as bee-keeping is concerned.

The fact that bees fill their honey-sacs with honey when frightened, and do not, when so filled, volunteer an attack, and the ease with which smoke is applied, has led, no doubt, to the abuse of smoke in managing bees.

Bad habits are common from superficial methods of reasoning, when a more thorough analysis of apparent results would eradicate or modify them. This is especially true in the use of smokers, and the smoker in the case of the apiary.

The fact that a cloud of smoke around a bee-tree reduces the anger of the bees, and removes the danger of attack from them, leads directly to the conclusion that such a cloud of smoke would have the same effect in an apiary. Circumstances which have come under my observation lead at once to this conclusion. As an evidence of the fact, allow me to cite the sale of smokers at certain seasons of the year, and the sizes most sold at such season.

The inference from the sale of any particular sizes of smokers, at a season when smokers are not much in use, is that the most experienced bee-keepers provide themselves with such tools as they are likely to need, before they are actually required for use in the apiary, while the amateur waits until the case becomes urgent before he decides, and then is likely to consult the first cost (which he sees clearly) rather than the results and principles underlying his purchase, which he does not so clearly understand.

Early in the spring, and also in the autumn, our sale of smokers are as five of the two largest to one of the smaller sizes, while in the middle of the season, when the young bee-keeper is obtaining his urgent outfit, the small and medium sized smokers lead in sale the three largest sizes somewhat, so that the entire season wings around with about the same total number of each as sold.

As the larger sizes hold more wood, and make as much smoke in proportion, it is safe to infer that bee-keepers of experience do not object to an immense volume of smoke in handling bees.

This conclusion, providing the premises on which it is based are correct, leads to the decision that bee-keepers, whether they understand the principle or not, recognize the value of a continuous cloud of smoke in the apiary at all times when bee-keepers are of necessity or choice among the hives and bees.

It is idle to presume that a peaceful, non-aggressive apiary can be found where gloves and veils are resorted to instead of constant and overwhelming smoke.

With abundance of smoke, the eye of the bee-keeper holds the temper of the bees, as the experienced horseman holds the vicious horse, and any careful manipulation may be made without a puff of smoke, provided always that the smoke is abundant in the air, and at the service of the operator should occasion require.

The above leads directly to the much discussed fuel for smokers. Of course circumstances alter cases, and the means of obtaining fuel of any particular kind will play a conspicuous part. One thing, however, will be found advisable under all circumstances, viz., to consult the smoker.

It is useless to try to burn anthracite or hard coal in a box-stove designed for burning wood. It would be equally futile to attempt to burn stove wood in a smoker not having a strong continuous draft.

This being understood, a clear understanding of the principles leading to results desired, it seems to me but one conclusion can be reached, viz., that sound sun-dried, or other perfectly dried maple stove wood meets, in the highest degree, the needs of the bee-keeper using a direct-draft smoker.

Some of the reasons why perfectly dry hard wood is preferable for use, is that it burns only at the bottom or lower end. That is, it renders the direct-draft smoker a base burner. (Rotton wood burns all over, and is soon gone.) Wood in sticks does not obstruct either the draft or blast, both of which render quick and continued action easy.

Sound wood, which has live coals left after it has ceased to smoke, main-

tains sufficient heat to prevent unpleasant sooty accumulation, and furnishes hot, dry, strong smoke all the time without working the bellows, thus rendering it ready for use every instant.

Of course the direct-draft smoker will burn anything combustible, and he who uses it may choose his fuel according to circumstances and tastes.

It may be asked here if it would not be better to have cold smoke. Such an idea has been advanced very much, but as the object of smoke is to frighten bees, not convert them into bacon, anything that will accomplish the fright in the easiest and most effective manner, will serve the purpose best.

Hot air will do this just as well as smoke, as far as it goes, but the air cools so quickly it is of no value except just as it leaves the smoker. The making of smoke goes on fast or slow just in proportion to heat, so that when there is heat there is little smoke, and *vice versa*, where there is much smoke "there is some fire."

Abronia, Mich.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Aug. 3. Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Three Weeks Late.—Wm. Enke, of Rochester, Minn., on June 9, 1888, writes:

The season here is about three weeks late. Dandelions are now in full bloom, and bees are gaining fast. My bees were in the cellar 163 days, and I lost 1 out of 90 (in the cellar), but these were reduced to 75 by uniting.

Spring Dwindling.—S. D. Haskin, of Waterville, Minn., on May 29, 1888, writes:

I will describe the condition of my bees and those of my neighbor: Mine were wintered on the summer stands, and his in an out-door cellar. About the middle of March it was warm, and I examined mine. They appeared to be in splendid condition, but they did not have a general flight until May 1, and as is usual with so hard a winter, and such a long confinement, they had soiled their hives badly, and many fainted and failed as they flew, and my 30 colonies are now reduced to 6. The wild plums, cherry and willows, and many other wild flowers are open, that they usually work on, but they do not seem to work energetically. My neighbor's bees were inside over 6 months. There was no suitable weather to get them out. There has been so very much wet and cold weather. His bees are much reduced, but are in better condition than mine. I have taken 20 of his colonies to run on shares this season, giving him one dollar per swarm for the young swarms to hive in my hives, which are full of comb. I give him one-half of the honey of the old colonies, but the prospect so far is slim, indeed. To-day is warm and clear; the best we have had this spring.

Have Tested Them.—Daniel Whitmer, of South Bend, Ind., on May 16, 1888, writes:

Having used the Heddon divisible-brood-chamber hive for two years, I would say that I find it more convenient for handling than any hive I ever used. I can find queens very readily in it, and prefer it for the production of comb honey, as well as for getting it in the liquid form. For moving them in and out of the cellar I find them exceedingly convenient. Of course I shall test them more fully this year, if we have a good honey flow.

Moved my Bees.—W. H. Stringer, of Guthrie Center, Iowa, on June 1, 1888, writes:

I moved my bees this spring on a wagon about ten miles. I lost about 12 colonies through the winter. I had 3 colonies that I wintered out-of-doors; the rest were in the cellar. I have 36 colonies, including a few which I divided. I think that fully one-half of the bees in this county died last winter. I secured about 1,000 pounds of honey last year. I like the BEE JOURNAL very much.

That Three-Sided Hive.—Mr. D. Chalmers, of Poole, Ont., on June 2, 1888, asks us to make some corrections of his article on page 340. He says:

In giving a description of my improvements in bee-hives, there are a few mistakes which should be corrected: In the 19th line below Figure 1, it should read thus: "The upper level of the frames are that distance below the level of the top of the hive;" then, again, in claiming the properties of the honey-board, it should read: "Only being propolized around the inner edge of the hive," instead of *under edge*. There is a misprint in the first line of the second column, in that you have "abjustable" side instead of *adjustable*.

Still Feeding the Bees.—Mr. O. R. Goodno, of Carson City, Mich., on June 10, 1888, writes very discouragingly of the prospects—but he is yet hopeful:

Spring is not yet in sight for bees. Spring dwindling still continues. I am feeding the bees every night to keep them from starving. Fruit bloom and dandelions are past and gone, with the above existing conditions. I would like to see Mr. Doolittle, or any other man, produce his starters for surplus which he advocates in fruit bloom, in this section this year. I have seen the first raspberry and white clover bloom to-day, for the season. For several days nothing has been in bloom, with a fair prospect for a slight frost to-night, but never mind. "Wind her up again, John."

Bees Scarce Here.—A. S. Camblin, of Selma, Iowa, on June 13, 1888, writes:

There are no large apiaries in this part of the State, and it is likely that there will be but few small ones for some time to come. Owing to the two years' drouth, the bees have nearly all died. There is not more than 25 colonies within four miles of this place, and 15 of them are what I saved out of upwards of 30 I put into the cellar last fall. I hope for a full honey flow. I put off feeding until late. The season here has been backward. During fruit bloom it was cold and windy most of the time, so that the bees could not fly; but by feeding I have my 15 colonies in pretty fair condition. I have nearly a clear field, and if the season is favorable, I expect to get some honey this summer. I have 7 or 8 acres of Alsike clover sowed this spring with fall wheat. Will it bloom this summer to afford any honey?

[Yes. It is an annual, and blooms the first year from the seed.—ED.]

But Little Surplus Honey.—C. Solveson, Nashotah, Wis., on June 14, 1888, writes:

In this vicinity we shall have but little if any surplus honey this year. Not only is the white clover badly killed out, but we will not have the bees to gather what little honey there will be. Out of 94 colonies placed in winter quarters last fall, I had 90 colonies left this spring in good condition; since then I have lost 30 per cent. from spring dwindling. No pollen was gathered in April, and but little in May. I have not a colony to-day that is stronger than when taken from the cellar on April 18, and I am feeding them daily to keep life in the few remnants I have left. The Editor's remarks in regard to that infamous Wiley, are to the point exactly. His position and present employment is a disgrace to the Nation!

Good Prospect for Honey.—J. M. McDaniel, of Peoria, Texas, on May 11, 1888, writes:

Our prospect for honey is good. Bees here have been near starvation for the last two years, but now the few that have survived are booming.

Successful Work.—A. S. Straw, of Edwardsburg, Mich., on June 14, 1888, says:

I have kept bees for 35 years of my life, and I thought I was well posted on them, but after reading the AMERICAN BEE JOURNAL, I find I am at the foot of the ladder. I can look back and see where I lost lots of bees by not reading and posting myself. I commenced two years ago with 3 colonies of bees, and got 300 pounds of comb honey. In 1887 I had 7 colonies; I got no surplus, but I increased them to 15. I commenced this spring with 15, all in good condition, and they are gathering honey fast now. They wintered in the cellar; the temperature was from 30° to 43° above zero. I give the AMERICAN BEE JOURNAL the credit for my success.

Has a Good Market.—J. M. Jacobs, DeWitt, Iowa, on June 14, 1888, writes:

I have, this spring, in good condition, 30 colonies of Italian bees. This year, in this region, prospects are good. The year 1887 was unfavorable for honey. I had orders for 10,000 pounds of honey more than I could fill. In 1886 I sold in 14 days 22,000 pounds of honey. I can sell this fall 100,000 pounds of one-pound sections of white clover honey.

Joined the Silent Majority.—Mr. H. Clark, of Palmyra, Iowa, on June 7, 1888, writes as follows:

The Lord has seen fit to call my daughter to the Land of Rest. She was an interesting worker among the bees. She had soft blue eyes and long yellow hair, and was a constant reader of the BEE JOURNAL, and spoke of it in her last hours. These lines were written by Mrs. Martha Thompson, of Clarkson, Iowa, coucerning our daughter Emma:

She sleeps within the cold, cold ground,
The dark, blue skies above her;
She was too fair and frail for earth,
None knew her but to love her.

Her sweet, fair form has faded now,
Her cheeks have lost their roses;
Her guileless heart is free from sin,
In heaven sweet reposes.

We stood beside her bed of death,
Bowed down were we by sorrow;
We knew she would be lost to us,
Upon the coming morrow.

From her fair lips the cheerful smiles
Could not by death be driven.
And with hopes of future bliss,
She passed from earth to heaven.

Hold your Breath.—L. Hammerschmidt, Amana, Iowa, writes on June 8, 1888, as follows:

In the *Scientific American* for June 2, 1888, I find this statement: "If you hold a bee by the legs, between two fingers, and let her sting *act* on the fleshy part of your finger's point, as long as you hold your breath, the sting will not penetrate the skin." I have tried this, aud found it to be correct; even more, I have put my hand between two combs full of bees; have taken a hand-full of bees, and when I sweep off the bees from a comb, as long as I can hold my breath, they will not sting. Will some others of the fraternity try this and report?

[We republish the above letter, corrected because in our last issue the word *not* was introduced in the fourth line in the place of *act*—spoiling the sense.—ED.]

Frank Leslie's Sunday Magazine for July, which begins the twenty-fourth volume, is a bright and entertaining summer number, full, as usual, of interesting reading and beautiful illustrations. Among the profusely illustrated articles are "Ancient Greeks in Modern Cyprus," by A. L. Rawson; "Sunday in the City of the Czar," by Rev. Frederick Hastings. These with other numerous articles, art pictures, music and miscellany, make up a very attractive number.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ¼ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

J. T. Wilson, of Nicholasville, Ky., on June 4, 1888, writes thus: "My card in the AMERICAN BEE JOURNAL brings most of my orders."

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.

BEESWAX.—26c.

HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 14c.—Dull.

BEESWAX.—23@24c.

June 14. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 15@16c. for best one-lb. sections; other grades are slow, at lower prices. Extracted, 7@8c. Light demand, and supply larger than usual at this season of the year.

BEESWAX,—23c. R. A. BURNETT,
May 1. 181 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 14@15c.; fancy 2-lbs., 12c. Lower grades 1@2c. per lb. less. Buckwheat 1-lbs., 10@10½c.; 2-lbs., 9@9½c. Extracted, white, 7@7½c.; dark, 5½@6c. Market is dull for comb but improving for extracted, of which new from the south is arriving.

BEESWAX—Scarce, 24@27.

May 21. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.

BEESWAX.—23c.

Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is good. Comb honey, 14@17c.—Demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Jnu. 14. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@18c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.

BEESWAX.—22@25c.

Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.

BEESWAX.—20@23c.

Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts.; dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.

BEESWAX.—21 to 22c.

Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 18@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.

BEESWAX.—25 cts. per lb.

Mar. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote for new extracted 6@4½c., as to color and quality. New comb honey 14@10c., as to quality. Arrivals are still small, and demand of a jobbing nature.

BEESWAX.—Scarce, 20@24c.

June 2. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.

BEESWAX.—None on the market.

June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Advertisements.

LOOK!—Beautiful One-Piece Sections only $3.60 per 1,000. Order at once from this advertisement—or if you wish T-Supers or other Supplies cheap, write for circular. Address, **R. L. CLEGG,**
25A1t PEORIA, Union Co., OHIO.

Mention the American Bee Journal.

FOR SALE—600 Colonies in the movable-comb hives, at $4.00 for Italians, and $3.00 for Hybrids.
25A13t **G. H. ADAMS,** Troy, N. Y.

Mention the American Bee Journal.

FOR THIRTY DAYS

WE will offer 1-Piece V-Groove Sections, mostly 4¼x4¼x1⅞, at reduced prices.—We guarantee our Sections No. 1 in every respect; have 100,000 to select from. Please, friends, send for sample, to

J. B. MURRAY,
25A1t ADA, Hardin Co., OHIO.

Mention the American Bee Journal.

We are Going to Move

AND will sell **cheap**—new and second-hand Hives and Cases, a lot of Dadants' Foundation, Barnes' Saw, 10-Inch Pelham Foundation Mill, Novice Extractor, and Alley's Drone-Traps; Hives and Cases in the flat, etc.

J. W. BUCHANAN & BRO.,
25A1t ELDORA, Hardin Co., IOWA.

Mention the American Bee Journal.

VICTOR

SAFE.

DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.

We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with sub-treasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,.... CHICAGO, ILLS.

GLASS PAILS

FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.

Prices are as follows:

To hold 1 pound of honey, per dozen,			$1.60
"	2 pounds	" "	2.00
"	3 "	" "	2.50

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

THE OLD AND RELIABLE

KNICKERBOCKER BEE-FARM

(ESTABLISHED 1880.)

It will **PAY** you to send for our Circular and Price List of Bees and Queens before ordering elsewhere. Address,

GEO. H. KNICKERBOCKER,
(Box 41) PINE PLAINS,
23D2t Ductheas Co., N. Y.

Mention the American Bee Journal.

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.

WE will SELL CARNIOLAN QUEENS, reared in June, July and August, 1888, until further notice. Untested queens $1.00; tested, $2.00; tested and selected, $3.00.

ANDREWS & LOCKHART,
24Atf PATTEN'S MILLS, Wash. Co., N. Y.

NEW ONE-POUND HONEY PAIL.

THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **Price, 75 cents per dozen, or $5.00 per 100.**

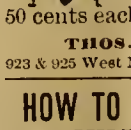
THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

SUPPLY DEALERS

AND **OTHERS** should write to me for SPECIAL PRICES on **BEE-SUPPLIES** for this fall and winter.

☞ **A heavy Discount allowed.**

Address, A. F. STAUFFER,
44Dtf STERLING, ILLINOIS.



We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.

Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD
PUBLISHED BY
THOS. G. NEWMAN & SON.
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. June 27, 1888. No. 26.

EDITORIAL BUZZINGS.

You Never Hear the bee complain,
Nor hear it weep nor wail;
But, if it wish, it can unfold
A very painful tail.

The Honey Crop of California is now reported to be only two-thirds of an average product. Our first reports said that it was large, but gave no comparison.

Mr. Joseph McCaul (late of McCaul & Hildreth Brothers), has again opened the "Bee-Keepers' Headquarters" at 191 Duane Street (near Greenwich), New York, and invites all apiarists who go to New York, to give him a call.

Mr. G. M. Doolittle, we regret to learn, has been confined to his residence for a week or more, with lumbago, or "crick in the back." The only easy position he has found so far, is being propped back in a rocking chair. This must be "misery" for our energetic friend. We hope that complete relief will soon be found, and that "Richard will be himself again," before many days pass.

New Bee Book.—We have received from the publisher, L. Upcott Gill, 170 Strand, W.C., London, England, a copy of "The Book of Bee-Keeping," by W. B. Webster. It is a pamphlet of 98 pages, and covers the whole ground of the modern "management of bees," Mr. Webster being a first-class expert of the British Bee-Keepers' Association. It is gotten up cheaply to fill the popular demand of English cottagers for a cheap manual of bee-keeping, and sells for a shilling. It gives, in a concise form, what to do in the apiary, and how to do it, but the methods and implements are not such as are used in America, except in a few particulars.

Major Von Hruschka, the inventor of the honey extractor, is dead. He died in Venice on May 11, 1888. This we gleam from the *L'Apicoltore* for June, which is just received. Major Hruschka was a retired Austrian officer, and the invention of the honey extractor occurred in this way: His apiary was in Italy, and one day when the Major, who was a most observing and critical bee-keeper, was in his apiary, his little boy came there to him. The boy had a small tin pail tied to a string, which he was swinging, boy-like, around and around in a circle, holding the end of the string in his hand.

The indulgent father gave the youth a small piece of comb filled with honey, putting it into the little pail. The boy, after awhile, began to swing the pail again as before, with the honey in it. A few moments after, he became tired of that amusement, and put the pail down to talk to his father, who took it up, and, by chance, noticed that the honey had left the comb and settled down into the pail, leaving the comb perfectly clean that had been on the outside of the circle when the boy was swinging it around. The Major wondered at the circumstance, and, turning the comb over, bade the boy swing it again, when, to his great astonishment, the other side of the comb also became perfectly clean, all the honey being extracted and lying at the bottom of the pail.

During the following night Major Von Hruschka, after going to bed, commenced to think the circumstance over; he thought, and thought, and his thoughts troubled him so much that on the morrow he commenced a series of experiments which resulted in his giving to the world the first honey extractor, which, by whirling, something like his son whirled that little tin pail, gave him the pure liquid honey, extracted by centrifugal force, leaving the honey-comb entirely free from the liquid sweet, which he gave again to the bees to fill; allowing him the pure honey for making wine, mead and metheglin, or honey cakes, as desired, without employing the troublesome and primitive method in use up to that time, of mashing up the combs containing the honey, pollen, and sometimes brood, too, to let the honey drain through the cloth in which it was placed—giving what was formerly known as "strained honey."

Chapman Honey-Plant and White Clover.—S. Burton, Eureka, Ills., on June 15, 1888, writes:

The Chapman honey-plant seed that I obtained in the spring of 1887, is doing finely now. It is from 4 to 6 feet high, and is heading for bloom. Will it bloom more than once from the old root? All who see the plant want to know what I am "raising those thistles for." I will write more about it later. I have had 10 swarms this spring, but none the past week. The white clover will be scarce until the new crop comes from the seed, which is abundant, and which, I think, will bloom in July.

It is a perennial, and blooms yearly from the same root until killed.

Squeezing Blood from a Turnip.—Those fellows who wager a thousand dollars without knowing what they are talking about, as Mr. Evans did (see page 388), are usually the kind of persons, financially, who "have nothing to lose."

Mr. H. M. Moyer, of Hill Church, Pa., writes thus on June 18, 1888, to the Manager of the National Bee-Keepers' Union:

I have read that article of yours on "the Wiley lie," on page 388. It is entirely too much to stand that wager of Mr. Evans. I will give three dollars if you will compel him to pay that thousand dollars into the treasury of the Bee-Keepers' Union. He is beaten, and should now pay it, just as Mr. Root would have had to pay if beaten.

Yes; he ought to pay the money, but had he been worth it, that wager would never have been made. Men who know the value of money do not make such wagers, unless they are drunk or crazy. Mr. Evans was, no doubt, sober, but luny on morality and honesty—a pessimist!

You may as well try to squeeze blood from a turnip as to get money from such an idle boaster as the man who wrote on page 388 that characteristic letter which calls sacramental wine "the essence of hell." He is evidently a worthless "crank."

Comb Surface.—In last week's issue, on page 407, Mr. Weidman makes some calculations on the number of cells in a frame 10¾x10¾ inches. As he comes to conclusions very different from those universally received, we fully intended to have added a foot-note to the article, calling attention to an evident error he had fallen into. But on account of sickness and consequent absence of our principal assistant, giving us extra cares, it was omitted. We will now give it attention here.

Mr. Weidman, in trying to correct Messrs. Doolittle and McNeill, makes a sad blunder himself. In one inch of comb there are about 27 cells—each cell averaging a trifle less than one-fifth of an inch—or 54 on both surfaces of one inch of comb. By an error Mr. W. has doubled this again, and so all his calculations are doubled!

Silver Lining to the Clouds.—Wm. Malone, of Newbern, Iowa, writes thus about the present discouraging season:

Have you seen the silver lining to the clouds so much talked of in 1882? I have not, but expect to do so very soon. Bees are swarming, but are not gathering any honey yet. The lindens will bloom in about ten days—then you will hear from Iowa. I am not discouraged, for I have not forgotten the season of 1882. We shall have a big honey flow soon, and "Don't you forget it!"

It will be welcomed by every apiarist. It now looks as though linden and a fall crop were our only hope for honey this year.

Mons. Alexander Jules, founder of the Society of Apiculture of Eure and Loir, died in the 58th year of his age, on April 25, 1888. He was an advanced apiarist, and a genial gentleman.

GLEANS OF NEWS.

Swarm Catchers.—*Gleanings*, for June 15, is on hand, and, as usual, is full of very interesting matter. An article on swarming, and its attendant clustering, is timely and instructive. We will condense it for our readers:

The swarm basket of Dr. S. W. Morrison, of Oxford, Pa., is thus described:

It is made of two pieces of pine, 16 feet long, 2x2½ inches. One side of each is made flat, and a groove for a rope is made in the centre of each, from top to bottom. The other side of each pole is rounded.

The two poles are then placed upright, wit the grooved sides together, the end of one pole being at about the middle of the other pole, and both are fastened together with an iron band near the connecting end of each pole. A pully is then put at the upper end of the lower pole, and a rope fastened at the lower end of the upper pole, running up through the groove and over the pully, is used to raise or lower the upper pole. At the upper end of the upper pole a peach-basket is fastened by means of ring staples to which the basket is tied.

A swarm of bees 35 feet above the ground can be reached by it, and a little jar under the cluster secures the bees in the basket. It is very easily made, inexpensive, and I am sure there can be none better.

The corn-popper catcher is thus mentioned:

The lid of the popper was thrown back, and the popper itself was crowded up gently against the lower end of the cluster. The bees very soon rolled over and over each other until the popper was level full of them. The wire-cloth top was thrown over, and snapped shut. We did not know whether he had secured the queen or not. It did not matter much, for half or two-thirds of the cluster was confined in the popper, and the queen, if outside, together with the remaining bees, would cluster around their captive comrades. We thrust the handle down into the soft dirt near where the bees were flying quite thick, and the popper was thus supported a couple of feet from the ground, where the bees could get at them. We then left them for an hour or so. When we returned, all the outside bees were clustered around the popper. They were now in such shape that we could carry them where we pleased, and hive them where we pleased, which we did with entire success.

Mr. A. E. Manum's method of catching and hiving swarms is thus described by him, after stating that he clipped the wings of all his queens:

I will first give a description of my swarm-catcher; and as there is no patent on it, all are at liberty to make and use the same. It is simply a wire-cloth cage fasteued to a pole with two legs, so attached to the pole that they can be set out or in, something like a tripod. The lower end of the pole may be sharpened, to stick in the ground, in order to steady the catcher, and to prevent it from being tipped forward by the weight of the bees.

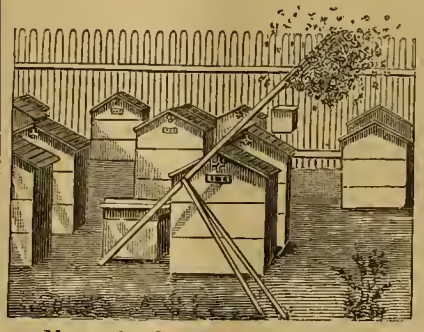
The head, or cage, is 10x10 inches square by 1¾ thick, and is covered on each side with wire cloth. It is made in two parts, and hinged together, so as to open and close. When closed it is held together by a small hook. One of the parts of the head is fastened to the pole, forming a catcher, as may be imagined by referring to the cut.

The head is made of ⅞x⅜ inch stuff, hence is very light. I usually furnish 8 or 10 of these catchers to each of my apiaries.

Now, as we have our catchers all made and ready for use, by having them distributed through the apiary in order to have them handy, we will proceed to catch that swarm that is just coming out. We will take this catcher here, and open it; hold it to the entrance,and catch what bees we can; close it, and lay it on the ground near by, and watch for the queen. As she comes out, catch and put her in the catcher with the bees. Now set up the machine in some shady place, if convenient. The buzzing of the bees and the scent of the queen will soon attract the swarm, when all will alight on the catcher, where they may remain until we are ready to hive them; and if we fear another swarm may issue before these are hived, they may be covered with a sheet.

See! there comes another swarm! run with another catcher, and proceed as before, and set this catcher some distance from the first, if we wish to hive the swarms separately. Although the first is covered with a sheet, it is safer to set them apart. In this way we can catch all the swarms that issue, and not be bothered by their clustering together, providing they do not all come out together.

When all have clustered, we may proceed to hive each separately, or two or three together, by taking up a catcher and bees,and



Manum's Swarming Apparatus.

carrying them to the hive previously prepared. We shake off the outside bees in front of the hive, and then open the catcher, and shake out the queen and bees, and the work is done.

If two or more swarms issue at one time, we proceed to catch the few bees and queens as before, using a catcher for each swarm (hence the necessity of several catchers); and, as is usually the case when more than one swarm issues at one time, they will mingle and cluster together. In such case we set the catchers near together, and await the results. If more bees settle on one catcher than on the others, we shake them off from this one; and on rising they will almost always divide up equally, each swarm clustering around its queen.

If we are too long a time in catching the queens and setting up the catchers, the bees may commence to cluster on a tree. In such a case it is better to set all the catchers under the cluster; that is, in the tree; and with a pole with a hook on the end, shake the bees off. Upon rising they will likely locate their queens; if not, shake them off again, and they will soon all separate, each swarm clustering with its queen,to the great delight of the apiarist.

There are many other ways to use these catchers that will suggest themselves during the swarming season.

Whereupon Mr. Root remarks as follows:

Our friend Mr. Manum is quite an extensive apiarist. In a private note we received from him, he said he was then locating his seventh out-apiary, so our readers may judge somewhat of the amount of experience he necessarily has had among bees, and of his ability to judge of a simple and practical swarming apparatus.

Just here it occurs to us that there are two ideas worth bringing up. The first is, that, if the queens are not clipped, the queen herself will usually be found on the outside of the cluster, or near the bottom end, for, it is said, bees will never hang to the queen. If, therefore, the corn-popper cage or other receptacle be pushed gently against the lower end of the swarm, you are likely to secure not only the larger portion of the bees, but the queen also; and in this event your swarming is practically done. The other idea is this: After these wire-cloth cages, such as the corn-popper and Manum's arrangement, have been used a few times for catching swarms, they will acquire the scent of the laying queen, and of former swarms. The catcher will, in consequence, be more readily accepted for clustering by succeeding swarms. In time these cages will have little bits of wax adhering to them, and these, also, form no small part of the attraction.

Dangerously Stung by Bees.—The following item from the New York *Weekly Post*, has been passing the rounds of the press for the past two or three weeks:

XENIA, O., May 23.—George Hamill, a young farmer residing two miles north of this city, was attempting to hive a swarm of bees yesterday, when they settled on his head, face and neck. He began to fight them, and they began to sting. In a short time he was on the ground writhing in terrible agony; and when his wife and mother came to his aid with brooms, he was nearly dead. He became unconscious, and remained so for some time, his head and hands swelling up so as to make him unrecognizable. He is in a serious condition.

We do not know how much the above report has been exaggerated. In any case, it was very unwise in the young farmer to strike at and fight the bees, as he is reported to have done. If they started to cluster on his person, he should first attempt to jar them off gently, and then walk quietly away for the time being, until they found some other object on which to cluster. A few puffs from a bee-smoker would also have removed them. We thought best to insert the item, to warn our friends against striking bees, or fighting them when there are so many in the air that they can do a great deal of mischief. We presume the young farmer recovered, as we have seen nothing ing in print to the effect that he he did not.—*Gleanings.*

The Supreme Court of the United States is a tribunal that exercises an immense influence, but is little known to the people. Ausburn Towner, in *Frank Leslie's Popular Monthly* for July, gives a very interesting account of the Justices, the room where they sit in judgment, their residences, as well as portraits, views, etc., that will open up the judiciary to all. In "The Rides of the World," Noel Ruthven takes up an attractive subject, and treats it in a most fascinating manner. The famous rides: •Bois de Boulogne, at Paris, Rotten Row, London, Central Park, New York, the Vienna Prater, and Berlin's renowned "Unter den Linden," day by day see the wealthy and fashionable dashing by in elegant turnouts drawn by splendid specimens of horseflesh.

Bogus Comb Honey.—To its shame be it known that in the light of all that has been said, written and printed about the manufacture of comb honey being an impossibility, the *Grocers' Vindicator* of Chicago, has lately printed the following stupid and malicious falsehood :

The experts are in the "honey-humbug business," of which fact, perhaps, some of our readers are not aware ; but for a long time there has been comb honey on the market which looks very fine and inviting, but it contains very little of the pure honey. It does seem strange that an article like honey should be allowed to be meddled with and so completely adulterated as to contain but a portion of the real honey ; but such is the case, and to that extent that we would say to our readers that it is harly safe to expect the pure honey from almost any source. The following is interesting ; read it :

"I never saw honey look like that," remarked a reporter, who had ordered toast and honey for his breakfast. "I never saw a honey-comb look so white or so uniform." "Well, sir," replied the waiter, "I'll let you into the secret. That is manufactured honey. The comb is manufactured now of a white wax. Molds are made to the shape and size required, and the heated wax is poured in and becomes an imitation of honey-comb. A piece of this comb is placed in the jar, and the syrup poured in. They can't make a good imitation, though ; nearly every one who calls for honey detects the imitation. The wax is whiter, and then it is unpleasant if you should get it into the mouth. It is much cheaper than real comb honey, and sometimes the supply of honey runs short, and the manufactured honey has to be used."

The fact is, that this stupid humbug has been so often exposed that it is somewhat monotonous ! Why is it that editors of respectable sheets should so often be deceived ? There is only one excuse that can be offered, and that is—ignorance !

We have hunted down many similar statements—and they are always without foundation, except that Jones told Smith that Benson told him that a friend had seen such things made in New York, Chicago, or some other place ! ! Here is a little experience of Mr. M. H. Tweed, of Allegheny, Pa., as related in *Gleanings :*

A short time ago a drummer, traveling for a Baltimore fish-house, was standing in a store as I was delivering honey in glasses, comb and extracted together. He picked up a glass and asked if it was pure, with the air of a man who thought that he knew it was not, but simply wished to see if I would tell a lie about it. I answered him that it was pure, and asked if there was such a thing as manufactured comb honey. He looked at me as though he thought I was a fool to ask such a question, as he replied, "Certainly they do."

I said, "My friend, have you seen it made ?"

"Yes, sir," he replied.

I then said to him, "I am glad I have met you, for I have heard that story about manufactured comb for several years past, but you are the first man that I have come across who has seen it done. Now, where did you see it made ?"

"Out in Ohio," was his answer.

"Ohio ! that's a big place. Where did you see it made there ?"

He replied with some hesitation, "On the Western Reserve."

I said, "That is a big place too ; where did you see it made on the Western Reserve ?"

With a great deal less confidence, he replied, "In Orrville."

"Orrville ?" I said, "that small country town ? I have been there ; who makes it there ?"

Being fairly cornered he replied, "Well, there was a man told me he saw it made there."

Now, you see had I not cornered him he would have explained to the grocer all about how the comb was manufactured. You will easily see that his knowledge came simply through some man in Orrville having been seen making foundation comb ; and by the time two or three smart fellows repeat it, the cells are completed, filled, and capped.

In order to counteract the baneful influence of such falsehoods, Mr. Root has issued the following "card," to which we call especial attention. Copies of it can be had of him, free of cost, by any one who can use them to advantage in attempting to refute the current lying about comb honey being adulterated. It reads thus :

TO WHOM IT MAY CONCERN.

In view of the false and damaging statements to the honey business, in regard to making comb honey by machinery, etc., I have thought best to silence all such falsehoods as they come up, by the following offer : I will pay $1,000 in cash to any person who will tell me where comb honey is manufactured by machinery ; or I will pay the same sum to any one who will find manufactured comb honey on the market, for sale. I am as safe in making this offer, dear friends, as I should be if it were strawberries or hens' eggs. It never has been done, and it never will be done. If you wish to know whether I am responsible for the above amount or not, go to any bank and ask them to quote my standing in Dun's or Bradstreet's Commercial Agency, or write to the First National Bank of Medina. A. I. ROOT,

Editor of Gleanings in Bee-Culture,
Medina, Ohio.

Mr. Root profoundly remarks that the traveling men, who have done so much to spread these lies, should be taught that "telling lies is dangerous business in this present progressive age of the world." Let all such now be required either to "*put up*" the proof, or "*shut up !*"

The Apiarian Exhibit at Cincinnati, under the Governmental supervision, is provided for, and the following circular has been issued and sent to prominent apiarists :

U. S. Department of Agriculture.

HINSDALE, Du Page Co., Ill., June 15, 1888.

DEAR SIR :—Each one of the divisions of the United States Department of Agriculture is expected to contribute to the exhibit to be made by the Department at the Cincinnati Exposition, opening July 4.

I have just been instructed by Dr. C. V. Riley, the United States Entomologist, to make a collection of devices and implements used in bee-keeping, such as will represent the progress in the art in the United States, from the time when "log-gums" and box-hives were in common use, to the present time.

This collection will form a part of the exhibit to be made by the Division of Entomology at the coming Cincinnati Expostion. At the close of the Exposition, Nov. 1, this collection will be removed to Washington, D. C., and placed in a suitable apartment already set apart for the purpose in the National Museum, where it will permanently remain.

I would be glad to receive from you such contributions to this collection as you may be willing to make, either as a donation or as a loan for the Exposition. As far as possible, it is desired that the contributions be donated for permanent exhibition in the National Museum. The name and address of each contributor, and the purpose for which the device is used, will be attached to each article exhibited. Any article simply loaned will be returned at the close of the Exposition. If articles are sent by mail, the postage will be refunded. If sent by express, the express charges will be paid both ways by the Department.

You cannot fail to appreciate the great advantage you may receive from placing on exhibition such articles or devices as you may manufacture or offer for sale, both at the Cincinnati Exposition and also in the permaoent exhibit in the National Museum at Washington, where they may be seen by tens of thousands every year.

It is believed that all bee-keepers will be interested in having a creditable display in the interest of our pursuit. The time allowed is altogether too short to do what might be done, and prompt action is necessary. Please write me *at once*, saying what you are willing to contribute permanently, or loan for the Exposition. *I will write* accepting such of those things you offer as I shall need, and will give shipping directions with acceptance. This method is adopted *to avoid the sending of duplicates* of the same devices or objects of interest.

Soliciting your hearty co-operation *and an immediate reply*, I remain, Very truly yours, N. W. MCLAIN,

Apicultural Agent.

T. D. Williams, who lived alone in Lebanon, Conn., was found dead on June 12, under a tree. He was 76 years of age, and while trying to hive a swarm of bees, he fell and broke a leg, and the New Haven *Palladium* says that he was stung to death by the bees. They probably had been "angered" by the accident in some way.

A man 76 years of age should not climb trees ; especially if he lives alone, he should not take the risk of falling and dying when no assistance could be obtained.

Contraction of Entrances to Hives.—J. F. Gile, of Basswood, Wis., on June 11, 1888, asks for the following information :

State all circumstances under which the entrance to the Langstroth Simplicity hive should be contracted, especially with reference to newly-hived swarms.

Whenever the bees need protection, contract the entrance. Robbers sometimes trouble them, and disaster can be prevented by helping the bees in this way, to defend the hive against marauders.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Aug. 3.	Ionia County, at Ionia, Mich. H. Smith, Sec., Ionia, Mich.
Aug. 14.—Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.	
Aug. 27.—Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.	
Sept. 8.—Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.	

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

QUERIES AND REPLIES.

The Space Allowed Around Brood-Frames, etc.

Written for the American Bee Journal

Query 554.—1. In hanging frames as long and as shallow as the Langstroth, what space would you allow between the ends of frames and the hive? 2. What space between the tops of the frames and the surplus boxes? 3. How much space between each end of the top-bar and the hive, to prevent gluing, and admit of being easily handled?—Ohio.

To all of your questions I say ⅜ of an inch.—P. L. VIALLON.

1. ⅜ of an inch. 2. A double bee-space. 3. 5-16 of an inch.—A. B. MASON.

1. ⅜ of an inch. 2. 5-16 of an inch. 3. 5-16 of an inch.—MRS. L. HARRISON.

1. ⅜ of an inch. 2. ⅜ to ¼ of an inch. 3. Very little, if any.—DADANT & SON.

1. ⅜ of an inch. 2. ¼ of an inch. 3. 3-16 of an inch is sufficient.—J. P. H. BROWN.

1. and 2. ⅜ of an inch. 3. It is not important—A. J. COOK.

1. 5-16 of an inch. 2. The same as at the sides. 3. 1-32 of an inch.—G. M. DOOLITTLE.

1. ⅜ of an inch. 2. About 5-16 of an inch. 3. ¼ of an inch would prevent gluing, but I prefer 1-32 of an inch.—R. L. TAYLOR.

1. Anywhere from a bee-space to ⅜ of an inch. 2. A bee-space. 3. The same.—EUGENE SECOR.

1. ¼ of an inch. 2. A bee-space. 3. ⅛ of an inch is enough. The bees will glue, no matter what the spacing may be.—M. MAHIN.

1 and 2. ⅜ of an inch. 3. Bees will daub their glue. I leave about 1-16 of an inch.—J. M. HAMBAUGH.

1 and 2. In both cases, ⅜ of an inch, rather less than more. 3. ¼ of an inch is about right.—C. H. DIBBERN.

1. A full bee-space, say large ¼ inch. 2. A little less space than between the ends. 3. Just enough so that the frames can be easily removed.—J. E. POND.

1. ⅜ of an inch. 2. Scant ⅜ of an inch, if no honey-board is used. 3. ½ of an inch, if any.—JAMES HEDDON.

1. Not less than ¼ of an inch, nor more than ⅜ of an inch. 2. About an inch. 3. My bees will glue, no matter what space. The space in my hives is about 1-16 of an inch.—C. C. MILLER.

1. ⅜ of an inch. 2. 5-16 of an inch works the best for me. 3. I cut the top-bars of my frames about ⅛ shorter than the space in which they are to hang. I do not mind having the ends of the frames glued fast; it holds the frames in place when I move the hives about at swarming time.—G. W. DEMAREE.

1. ⅜ of an inch. 2. ¼ to ⅜ of an inch from the frames to the honey-board. The honey-board should be ¼ of an inch thick, and then ¼ to ⅜ inch space from the honey-board to the sections. 3. Make the ends of the top-bars pointed, and allow them to just touch the hive.—J. M. SHUCK.

1. I do not allow over 5-16 of an inch. The space usually provided is ⅜. 2. ¼ to 5-16 of an inch. 3. The top-bar should have movement endwise in the rabbet, of not less than 1-16 of an inch.—G. L. TINKER.

1. ⅜ of an inch. 2. Use a double-space of 5-16 of an inch each. 3. 1-32 of an inch in this locality; in some localities you would want ¼ to ⅜ of an inch on account of propolis.—H. D. CUTTING.

Each question may be answered by saying, give from ¼ to ⅜ of an inch of space.—THE EDITOR.

Queen-Excluders and Break-Joint Honey-Boards.

Written for the American Bee Journal

Query 555.—When working for comb honey with an ordinary-sized brood-chamber contracted to 5 frames, or with one section of a shallow reversible hive, is it always necessary to a use a queen-excluder, or will the slatted break-joint honey-board keep the bees from going into the surplus sections?—Minn.

I much prefer the queen-excluder.—G. M. DOOLITTLE.

It is not always necessary.—J. P. H. BROWN.

We do not contract the brood-chamber.—DADANT & SON.

In that case a queen-excluder is always necessary.—M. MAHIN.

You would want a good queen-excluder.—H. D. CUTTING.

No; I should hope not. If it did, I would not use it.—A. B. MASON.

I think the slatted break-joint honey-board will answer.—MRS. L. HARRISON.

I should always use a queen-excluder on so small a hive.—EUGENE SECOR.

I prefer the zinc perforated board, as the slatted break-joint honey-board does not always prevent the queen from going into the surplus arrangement. These boards are not used to prevent bees from going to any part of the hive.—P. L. VIALLON.

I have not found it necessary with the Langstroth frame, but with a single section of the new Heddon hive, I find it is.—R. L. TAYLOR.

Usually they will not go up, but it is safer to use a queen-excluding honey-board.—A. J. COOK.

I would use the queen-excluder, everytime. I have never used the break-joint honey-board.—J. M. HAMBAUGH.

A queen-excluder will certainly be needed, if the colony is in a normal condition and storing honey.—J. M. SHUCK.

It is necessary in all cases to use a wood-and-zinc honey-board in contracting the brood-chamber.—G. L. TINKER.

If you contract the brood-nest, you must put on a queen-excluder, or you will make a bad job of it. A "honey-board" is no hindrance to the queen going above.—G. W. DEMAREE.

As I do not work for comb honey in this way, and do not consider the plan of so doing practical or practicable, I cannot answer the question.—J. E. POND.

Without any queen-excluding honey-board, I find that with the brood-chamber contracted to 5 Langstroth frames, or one-half of the divisible brood-chamber, about one queen in 50 or 75 will go above and lay a few eggs.—JAMES HEDDON.

I have serious doubts whether a queen-excluding honey-board "pays" in an ordinary sized hive. I have found the slatted honey-board all that is required when using Langstroth hives.—C. H. DIBBERN.

With such a shallow or contracted hive it would probably be desirable to use the queen-excluding honey-board.—THE EDITOR.

The Queries written for and answered in the AMERICAN BEE JOURNAL have often been quoted not only in our British namesake, but also have been translated into other languages and published in the bee-periodicals of many nations. It is very flattering to know that they are of so much interest as to call for such reproduction and translation. The corps of contributors who make the replies may feel highly honored while knowing that their labors are appreciated both at home and abroad.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

CORRESPONDENCE.

YOUNG QUEENS.

The Balling of Young Queens by the Bees.

Written for the American Bee Journal

BY D. MILLARD.

I was much interested in the statements of Mr. Demaree, in answer to Query 543, on page 326. That unaccountable disposition of bees to "ball" their young queens was once a very perplexing problem to me. I spent much time, but patiently watched and observed, till I thought that I could see light upon the matter. I experimented further, and the light shone brighter, until the whole matter seemed perfectly plain to me.

I agree with Mr. D., that a young queen seldom if ever makes the mistake of entering the wrong hive. That she is signalled or saluted by her own bees is, I think, equally true, providing that the colony or nucleus, as the case may be, has a supply of young bees just commencing to fly.

A colony of bees that has been queenless for a great length of time, will usually accept a queen-cell, or a virgin-queen may be introduced, and she will be allowed to roam through the hive unmolested until she is disposed to take a flight, when the old bees will frown upon her; and if she persists in doing a little "side-walking" up and down the alighting-board, just to attract attention, they will tell her to just get inside and behave herself, or off comes her crown.

If the queen walks out and stays a little too long, or returns with her "ruffle" a little ruffled, she receives a reprimand that costs her life. But if there are plenty of young bees in the hive, of about the same age, they will go out together, and have a happy time flitting up and down the alighting-board; and if she flies off and is gone for a time, her young companions are all the more pleased to meet and salute her on her return, and thus the "signal" alluded to by Mr. D. (which lack of space undoubtedly forbade its explanation, and the lack of young bees at the time of the young queens taking their flight), is all there is of that unaccountable disposition of bees to ball and destroy the queen, or refuse her entrance to the hive.

If the apiarist has a colony of bees that has been queenless long enough to run out of brood, he should introduce a frame of capped brood in time to have it hatch, and the bees old enough to begin to fly when this young queen is old enough to mate. Never give a queenless colony of all old bees much unsealed brood, but give capped brood, and when part are hatched, give eggs and larvæ, and the newly-hatched bees will care for it and rear themselves a queen, which they will associate with and guard until she begins to lay, and then assist in driving out all laying workers.

The ancient rule was, "Old men for counsel, but young men for war." Applied to apiculture it would be thus: "Old bees for gathering honey and pollen, and young bees for inside work." But do not allow any colonies to become queenless and remain so, is my rule.

Mendon, Mich.

SCIENTIFIC.

Medicinal Qualities of Honey Explained.

Written for the British Bee Journal

BY R. A. H. GRIMSHAW.

We should like to inquire into the reasons why, or in what respect, honey is a medicine; supposing we take it as admitted that such is the case, an assumption many medical men might object to, seeing that the position of honey in the British Pharmacopœia is such a very modest one, its use being chiefly that of a vehicle for other medicines, and as an adjunct to gargles. I should say that children in the stages requiring *Mel boracis* receive the greatest share of the officinal preparations of honey. True, oxymel (a mixture of honey, acetic acid and water) is used as a demulcent, softening mucus lodging in the air-passages and facilitating its expectoration. In my own household, however, I prefer the use of citric acid to acetic.

In bronchitis, pure honey and simple is always at hand, and more relief is obtained by frequently tasting it than from anything else. Nearly twenty years ago I found the greatest benefit in an attack of quinsy, by using a gargle of red sage, acidulated with vinegar, and well sweetened with honey. Honey *ad libitum* as a laxative, and mixed with borax for thrush, is, of course, a common household medicine for children. We will leave out of our view the value of honey as a food, as a heat-producer, consisting, as it does principally, of carbon and water, the two sugars dextrose and levulose, invert sugar. We know it is readily assimilated in the stomach, and should be eaten with some attenuating substance, such as bread.

Mr. Cheshire, in "Honey as Food," tells us: "Why honey has a curative effect it is difficult to say for certain, but one may theorize, and ascribe this fact to the readiness with which it combines with mucous tissue. Honey is variable, and therefore its value as a medicine cannot always be the same."

In "Honey as Food and Medicine," we have a list of prescriptions which are almost incredulously efficacious, a few of which may be named as startlers: Inflammation and congestion of the lungs followed by unconsciousness were cured by eating honey at all times of the day and night, until 10 pounds were consumed. Herr Karl Gatter was at the verge of the grave, and was restored to perfect health by the use of honey. Consumption is cured by it, and in ancient times it was used as a means of securing long life, and it is said to be an excellent remedy in diseases of the bladder and kidneys. The receipes are:

For asthma, honey of squills, honey cough syrup, eye-wash, balsam of honey, for croup, for bronchitis, honey salve, for coughs, colds, whooping cough, etc.; honey-wash for the eyes, gargle for sore throat, cancer plaster, honey-cough medicine, honey and tar cough candy, honey for sore eyes, honey and walnut cough candy, remedy for whooping cough, colds, etc.

Granting that all these prescriptions are good and effectual, what is there about honey that is absent in sugar which brings about such apparently wonderful results? It is in this direction we will turn our gaze.

We know the effect produced upon the nerves at the roots of our teeth by bringing them into contact with fresh honey, strong in acid, and it may be that the excess of formic acid secreted by the bees is used by it in giving its honey this strong acid reaction. Indeed, it is not beyond the bounds of reason to suppose that the supply of this acid to the bee is not intended for use so much as sting poison as for purely domestic purposes. There is not much doubt that the acid contained in honey is beneficial to both stomach and liver.

What else is there in honey? Well, myriads of pollen-grains, and these contain chemical principles of undoubted medical potency. Putting aside the husks (the extine and intine of the pollen grain) the outermost skin is found to be reticulated with ridges, the seat of a secretion of sticky oil. The contents are a sticky fluid rich in protoplasm, sometimes transparent, sometimes opaque, by reason of floating granules (fovilla), which granules are declared by Herapath to contain as much as 46 per cent. of a peculiar inflammable *azotized* (?) principle, insoluble in nearly every liquid. I imagine it is soluble by gastric juice.

These granules were found to be invisible in many fresh pollens, since the fluid in which they swim has the same refractive power as the granules; some of them are drops of oil, whilst others consist of proteine compounds.

Many pollen tubes will develop in nectar, by osmose of water, and produce in their own tubes other chemical combinations, and as the growth of these tubes often exceeds the diameter of the pollen grain by a hundred diameters, their chemical position in the honey must be somewhat considerable.

We have then (leaving the sugar of honey on one side) to deal with formic acid and the protoplasmic contents of pollen-cells, when we think of honey as a medicine.

The most important factor, in my opinion, remains yet to be considered. I allude to its flavor. Mr. Otto Hehner tells us "he has not been able by chemical means to distinguish between honey from one kind of flower and any other." We must all admit that such a difference exists. We know that honey collected from poisonous plants is materially affected by the active deleterious or objectionable or medicinal principle, secreted by such plant, the rhododendron family, azaleas and kalmias being an instance of this. Does it not follow, as nectar is a secretion and an exudation of the plant cell, that it is charged and pervaded by the active principle, beneficial or otherwise, of the plant? Many instances of the identity of the nectar flavor, and the distinguishing principle of the plant which secretes it, can be given:

Citric acid is found in fruits and flowers of the orange tribe.
Tartaric acid is found in grape juice.
Malic acid is found in the apple, gooseberry, etc.
Tannic acid is found in the oak, etc.
Hydr cyanic (prussic) is found in the cherry laurel.
Oxalic acid is found in sorrel and rhubarb.
Gallic is found in all kinds of galla.

Of poisonous principles we find alkaloids of—

Quinine in cinchona.
Morphine in opium.
Solanine in plants of the potato tribe.
Veratrine in sebadilla.
Aconitine in monkshood and aconites.
Strychnine in nux vomica.
Atropine in belladonna.
Piperine in pepper.
Theine or caffeine in tea and coffee.

Some of the most poisonous plants bear the gaudiest flowers, and such we know are peculiarly attractive to bees, whilst many plants unwholesome as food are invaluable as medicine. Most of the umbelliferæ are poisonous—the same may be said of the ranunculaceæ, *e. g.*, anemone, pulsatilla, delphinium, monkshood, aconitum vulgare. The poppy family, papaveraceæ, are notorious (P. somniferum). The crucifers are, however, non-poisonous.

When we come to the violet family we find one of our most valuable medicines (ipecacuanha), obtained from the root of a violet grown in Peru. The buckthorn (rhamnus) gives us a valuable medicinal fruit; from the spindle tree family we get the valuable active principle euonymine. The seeds of the laburnum are poisonous. The cherry tribe (containing the almond, peach, nectarine, etc.) yields us prussic acid; this acid is also secreted by plants of the plum tribe.

A common plant (fool's parsley), common in gardens, is poisonous, as are generally the umbelliferæ, wet places being their home as a rule, when this principle is developed. Wild lettuce and wild celery are poisonous, whilst most members of the compositæ are medicinal. It is curious also to note that the ling or heather (the source of so much fine honey), has in its family the azaleas, kalmias, etc. The periwinkle (vinca) family have amongst them the nux vomica, from which we extract strychnine, a deadly poison, but at the same time the most valuable tonic in the Pharmacopœia.

Entire plants are wild lettuce (Lactucin, similar to Manna).

The following are the parts of plants used in medical preparations:

Twigs and Tops	Savin	(Savin oil).
	Broom tops	(Scoparin).
	Woody nightshade.	(Solania, an alkaloid).
	From	*Is obtained*
Flowers.	The Lavender...	Oil of lavender.
	The Hop	..Lupulin and Humulin.
	Peppermint.....	A volatile oil.
	Camomile.....	.....A volatile oil (Oleum Anthemidis).
	Orange Flowers...	A volatile oil.
	Crocus.....	.....Saffron.
	Rosemary.....	A volatile oil.
	The Poppy.....	" "
	Elder.....	" "
Buds.	Santonica (worm-Santonin, and a volatile oil seed).	
Barks.	Larch.....	Resin, Tannic acid and Larixinic acid, crystal and volatile.
	Mezereon.....	A volatile oil.
	Oak	.....Tannic acid.
	Elm.....	" "
Leaves.	Monkshood.....	.....Aconitia (A).
	Deadly nightshade.	Atropia (A).
	Hemlock.....	.....Conia (A), and a volatile oil.
	Foxglove.....	.....Digitalin (A).
	Henbane.....	.....Hyoscyamia (A).
	Cherry laurel.....	.....Prussic acid and a volatile oil.
	Stramony leavea....	Daturia (A).
	Bearberry.....	.....Tannic, gallic acids, and volatile oil.
Roots.	Monkshood.....	.....Aconitia (see Leaves).
	Deadly nightshade.	Atropia " "
	Colchicum.....	.....Colchicia (A).
	Gentiana.....	.....Gentianite, a bitter principle.
	Dandelion.....	.....A bitter crystalline substance Taraxacin.
Fruits.	Dill.....	.....Volatile oil.
	Anise.....	" "
	Carraway.....	" "
	Coriander.....	" "
	Fennel.....	" "
	Hemlock.....	.....Conia (A) see Leaves.
	Poppy.....	.....Opium from which Morphia.
Seeds.	Colchicum.....	.....Colchicia (A) see Roots.
	Mustard.....	.....Myronic acid and a volatile oil.
	Stramony.....	.....Daturia (A) see Leavea.

When we come to examine these products of the plant, from its very summit to its roots, taking leaves, bark, flowers, fruit, seeds, on the way, we find what we may call the characteristic or active principle of the plant pervading its whole system, but appearing in a stronger form in some particular place. We must try to think of the plant as a simple aggregation of units, a mass of single cells, each of which is a laboratory in itself, forming of itself simple and complex compounds which it passes forward to its neighbors in order that they may be thereby further protected, and finally stored away for further use by the plant, or utilized by it as protective, resisting the attacks of birds, insects, and other animals, or else rendering the plant attractive to the particular animal whose services are desired.

Now the aroma of the plant is generally characteristic of its active principle, and this aroma appears in the nectar. The nectar owes its saccharine matter to the starch secreted by the single plant-cell from the carbonic acid of the atmosphere which it transforms into sugar, and flavors with its active principle. The sweet-scented sap exudes or transudes through the outermost cells, and appears as a degradation product in a similar fashion to resins and gums.

We find most active principles medicinal when taken in small doses, but distinctly poisonous in larger quantities; and again many of them are antidotal when taken together. Herein is a beautiful provision of nature exemplified in the minute quantities of medicinal matter gathered by the bee, and so mixed in its storehouse that strong doses are rendered almost impossible and innocuous.

The human system, however, when out of order (and it rarely, if ever, is in perfect health) has the faculty of sympathetically seizing hold of what it requires from the food to restore it to its normal state. Honey thus supplies us with numerous powerful agents in restoring to health disorded vital functions. I hold that the mixed honey, for these very reasons, is the healthiest and best for general use; that which bears distinct and pronounced flavor, at once betraying its origin, only so betrays it because it holds an undue proportion of the active principle of the plant whence gathered, be this beneficial or otherwise; and when honey is found to disagree with any one, it will probably be found to be honey of a distinct flavor.

We also lose sight of the fact when eating comb honey, that we swallow the waxen cell-wall which we are told is varnished over with a preparation (a sort of furniture polish) of the acid saliva of the bee and propolis—propolis consisting of powerfully medicinal exudations varying with the sources from which it is gathered.

Much that I have said is ideal and theoretical, but I think my conclusions are rational and practical, viz., that in dealing with honey we are dealing with a medium—nectar—flavored with powerful medical compounds whose

harmlessness is ensured by the wonderful antidotal mixing of the bee; but the beneficial properties are still present, ready to be seized upon by diseased or disordered organs, and if there be anything in the science of homœopathic medicine, the curing of disease by minute infinitesimal doses of such powerful drugs as produce *symptoms* of the disease in larger doses, then a new line of thought is opened up, and considerable support given to my hypothesis.

Horsforth, Leeds, England.

[The above excellent article opens up a wide field for interesting and profitable research and investigation. That the many beautiful flowers, which so delight and attract the bees, should contain, besides food, much of medicinal value to the human family is not to be wondered at; especially when it is know that nothing has been created which does not possess some value—even the thistle and dock, that are so troublesome to farmers, having their particular uses. Let us hope that our bee-keeping doctors and men of scientific inclinations may look into this matter more fully, and thus perhaps discover in honey other health-restoring virtues, which will add another laurel to the crown of those whose business it is to glean the sweets of nature to tempt and delight the palates of mankind.—ED.]

MOVING BEES.

A very Rough Experience Given in Detail.

Written for the American Bee Journal

BY H. E. HILL.

As the subject of "moving bees" is receiving some attention at present, I will relate a little experience of mine; not that the undertaking was anything "very great," but to show how much "knocking about" bees will stand, when properly cared for.

The bees were in 3-frame Langstroth nuclei hives, with wire-screen over the top and bottom, with frames supported by notched strips; but, doubtless, the moving could have been just as successfully accomplished had they been full colonies.

On the night of Oct. 14, 1886, 10 of these little colonies were confined to the hives, and on the following day they were expressed from Summit, N. J., to New York city. On Oct. 16, I found them buzzing in a third-story room almost smothered by the smoke of a dozen or more cigars that were being smoked in the room, by those eagerly crowding around to see where the buzzing came from.

The bees were then placed in the elevator, let down, taken by a dray to the wharf, and placed on the deck of a Cuba bound steamer, where sponges of water were constantly kept on the screens, being refilled 8 or 10 times each day, and occasionally treating them to a sponge of sea-water, which they would drain in a short time.

Arriving at Havana five days later, they were placed in a small boat and taken ashore—a distance of about one mile—where they became the victims of the native "carretero," who "hustled" them over the cobble-stone pavements as though he was anxious to deliver as many loads as possible while the ship's cargo held out.

Arriving at the hotel, they were carried up into my room, where they remained for three days, being hauled again to the railroad depot across the city, thence by rail across the island to Batibano, on Oct. 24, and placed on board a Spanish coaster, which arrived at Cienfuegos on the following morning, when the bees were victimized a second time, in spite of all the English I used (which was just the same as so much Greek to him) to persuade the driver to "go slow."

Again to the hotel, and up-stairs, three days more in these quarters, when they were placed into a spring carriage, and driven into the country about three miles, arriving at La Gloria at 3 p.m. on Oct. 28. They were then released, and in less than 30 minutes several of the Jersey Italians returned to the hives laden with Cuban pollen.

Titusville, Pa.

FARM APIARIES.

Some Reasons for Having Bees on the Farm.

Read before the Farmers' Institute

BY T. S. SANFORD.

The honey-bee has been a topic for ancient writers, and from that time to the present, has received much time, attention and thought by our most practical and learned men. I am glad to see bee-culture given a place for discussion in our agricultural societies. Bee-culture is properly a branch of agriculture, and as such should be taught in every agricultural college.

The queen is, properly speaking, the "mother bee." She has no particular control over the colony other than her importance as mother bee. She does not lead the swarm, but is often among the last to leave the hive. She is capable of laying from one to three thousand eggs a day. This is doubted by some, but I have repeatedly seen her lay two and three eggs in a minute, which is over 3,000 in 24 hours. It is wonderful to see with what watchful care the bees follow her from comb to comb, making a way for her as she proceeds with her daily duties, depositing an egg in every empty cell. They can be seen continually offering her partly digested food, which she takes as required. If she had to eat honey and pollen and digest it herself, she could not lay twice her weight in eggs in one day. The life of the queen is from one to three years.

Worker bees are the smallest in the colony. They are rightly named workers, as the labor of the hive is performed by them. They build the comb—this wonderful comb, which the ingenuity of man has failed to imitate. They gather the pollen and deposit it in the cells. In the working season they die off very rapidly, their age at this time being only about sixty days. Young bees in the fall live in a state of quietude through the winter, but only live a few weeks after commencing to work on the flowers in the spring. This is why we should be careful to have our colonies kept warm and comfortable through the winter, and especially in the early spring, to induce the queen to lay early, thus securing a populous stock of young workers ready for the first honey-flow in the spring. There are from forty to sixty thousand workers, one queen, and a few hundred drones in a good colony of bees.

The drones are the only male bees in the hive. They are large and clumsy, and make a great noise while on the wing. They cannot sting. They perform none of the labor of the hive, but live on the indulgence of the workers, and for this reason the practical bee-keeper should be able to control the drones in each colony. Before the advent of the movable-frame hive this was impossible; but with the improved method of handling bees, we can exclude drones entirely from our yards if we desire.

The hive is a very important feature in apiculture. Without properly constructed hives, it is impossible to secure the best results. In passing over the country the past few days I could but notice the large and expensive barns the thrifty farmer has provided for his stock, to keep them warm and comfortable. What a contrast to the average bee-keeper. He seems to think that a nail-keg or soap-box is good enough for his bees, then sets them off in some fence corner and gives them

no further attention, but allows the weeds to grow around them, and the moths to get into them, and then complains that bees don't pay. How could he expect anything to pay treated in this way ?

An apiary properly kept and nicely arranged with good hives, well painted, is as much of an ornament as nicely painted and arranged houses and barns, and deserves a better place than an out-of-the-way corner. They should have a good, warm, double-walled hive, which is necessary either in summer or winter, and they *deserve* as much care as other stock. They do not require one-fourth as much, but what they do require they richly deserve. Hives should be so arranged that we can contract the brood-nest and enlarge it at pleasure.

By giving bees too much room in the brood-nest, they soon build more comb than the queen can fill with eggs, then they will build drone-cells intending to provide stores for winter use ; but when the queen has filled the worker-cells with eggs, they will commence to lay in the drone-cells, and and then instead of workers, we shall rear a lot of drones, to eat what the workers provide. The bees seem to tolerate an over-production of drones in the honey season, but as soon as the harvest is over, they are driven from their homes, and perish by cold and hunger.

For producing extracted honey more room may be given in the brood-chamber, as we can shave off the heads of the drone-brood when uncapping the cells for the extractor ; but for comb honey four or five frames is ample. We can place wide frames filled with sections at the sides of the brood-nest with a queen-excluding honey-board between. By thus contracting the brood-nest, we force the bees to commence work sooner in the sections than they would do if they had all the room they wanted below.

Reversing the frames is of much importance in the culture of bees for profit ; it pays to have frames that will reverse if only for one inversion, for thereby we can secure our frames built solidly full of comb from top to bottom, making them much stronger, and giving them a third more room in each frame. We can control swarming to a great extent, as we completely upset all their arrangements for swarming, and they at once commence to take the honey now at the bottom of the frame up into the sections, thus securing more surplus honey, and leaving nice, clean empty cells at the bottom that the queen will at once occupy and fill with eggs ; and having plenty of room to deposit eggs, and the workers all the work they can do filling out the empty space at the top of the frames with comb, they will nine times out of ten forget all about swarming, for the time being. The queen-excluding honey-board is an important invention, and very necessary in reversing frames.

To winter our bees successfully on the summer stands, requires care and attention at the proper time. As soon as the honey harvest is over I remove all the sections and surplus cases, and examine the brood-nest ; if they have not five brood-frames well filled with honey and brood, I at once feed them sugar syrup made of two parts of granulated sugar to one part of water. I would prefer five well-filled frames for an average swarm to winter on, to a large number.

When I am sure that they have a sufficient amount of winter stores, I provide them a passage way through each frame by making a small hole through each comb near the centre, or by placing a Hill's device or a small wooden butter dish over the frames, so that the bees can pass from one frame to another over the top-bars, then I cover all with a woolen quilt, or pieces of burlap, and pack around the sides and over the top with 3 or 4 inches of chaff. After being thus prepared they should not be disturbed until settled warm weather has come in the spring to stay ; when they should be united with some weak colony having a queen, or another queen procured for them at once.

Prof. Cook says that, "the study of rural pursuits helps to make home pleasant, and binds together the family, and finally it may be made a source of profit. I may be mistaken ; but I thoroughly believe in bee-keeping on the farm."

New Castle, Pa.

REVERSING.

Experimenting with Circassian Bees and Reversible Frames.

Written for the American Bee Journal

BY JAMES W. TEFFT.

Early in April I received 2 colonies of Circassian bees, in Gallup hives, each having 8 frames 12x12 inches. They were purchased for experiment. I had heard that these bees were of no earthly use, as it was impossible to keep them together in large, strong colonies ; they would swarm, and swarm, which broke up the working force into small "squibs ;" they would build queen-cells by the quart, and yet they were hardy bees, very gentle, not stingers, and would gather honey after swarming equal to other races of bees, all of which I found to be true ; for it is impossible to manage them with any degree of success with hanging or suspended frames.

Swarm they would, in spite of all that could be done. They were returned to their hives three times each, cut out a quart or more of queen-cells the queens' wings being clipped, which made it easy to get them. When I returned the last swarm, and while closing up the hive, a swarm came out. They did not stop a minute, but away they went for the woods a mile off. I opened the hive, and almost the first bee that I saw was the old queen. Why did those bees depart from nature's laws ?

Alsike clover was in full bloom, yet these Circassian bees would build no comb, neither would they go into the sections. Their reputation was well established, as being of no value. I was disgusted with them, and also with the suspended frame. At that time I would have given them to any one—my patience was exhausted.

But about June 1 I transferred their combs to good reversible frames. On placing the combs in the hive, the honey part was all down (reversed), and the brood up at the top-bar. The sections were put on, and the hives closed.

The next morning the bees were in the sections. Three days after, they had taken all the honey from the brood-frames, and the queens were busy. The sixth day I found any quantity of queen-cells just started in both hives, and they had considerable honey in the sections. I then reversed the frames that had the queen-cells (but not those that had hatching bees), which operation was departing from nature's laws, and the old theory practices of ages.

The next day not a sign of a queen-cell could be found. The side-storing sections were then put on, and from that time to the close of the season the brood-frames were reversed every sixth day. I seldom reverse combs with hatching bees—only at such times that the queen is again laying in them—and I have no more swarming. By July 1 I had in each of the hives a working force of at least 120,000 bees when they were divided.

I have come to the conclusion that nature's laws, with bees, has nothing to do with their swarming, as I understand it. Nature's laws are to build comb, gather honey, nurse baby bees, hatch and feed the brood, clean house, and guard the hive. Nature's law as regards the queen is the one which I try to study and manage. It makes a great difference to reverse the frames at the proper time. The advantages are four to one in favor of reversing,

and it is not problematical, but real, and not a particle of theory about it.

As soon as there are frames that really need reversing, the bees will at once empty the combs of all unsealed honey and convey it to the sections, thus giving the queen more room. At the second reversing, uncap all the honey in the brood-frames; that also will be conveyed to the sections.

I know there are many who have condemned reversible comb-frames, because, I think, they do not understand how to use them. Could they have seen my brood-combs after the third reversal, with no honey in them, (there were 8 frames of brood in each hive, but the 16 frames of comb built full from end to end, and from top to bottom—one solid mass of brood), they would have seen that there was no falsity about it. They would have "reversed" their opinion, the same as several old bee-keepers have done, who have examined my bees. They were amazed, astonished, and delighted!

By reversing the brood-frames, my bees put the honey where I want it. I get the brood-frames full of brood without being obliged to cut combs 7-16 of an inch thick; the bees do the cutting of comb better than I could possibly do it. I do not have to space the frames just bee-space apart. All of my frames are 1½ inches wide, and space themselves.

In practice I find that it is an advantage, as well as natural and economical, to be able to control the bees so as to have them put the honey where I can sell it. The time it takes is a small item for the bees.

If the brood-combs contain any unsealed honey, reverse them late in the day, and the next morning you will find that honey in the sections, and the queen in possession of the empty cells. It seems to give new life, and more energy to the whole colony. The brood-nest is in better shape, the colony is stronger in bees, and there are more field-workers, which means more honey! It gets them in splendid condition to withstand any inclement weather, and just so long as there is sufficient room all around the brood-nest (except at the bottom), the bees will not crowd the queen by clogging the brood-combs with honey. I rarely reverse the outside comb that contains honey, as that comb is reversed for winter use. Neither do I reverse those combs with hatching bees, but only those combs that contain freshly laid eggs, or those with queen-cells, to prevent swarming.

Had I left the Circassian bees on suspended frames, in accordance to nature's laws, as a native writer expresses it, I should or would have destroyed them as being of no value. To test them, I gave them extra work to do, and they performed it splendidly; it was just fun for them to re-convey the honey into the sections.

I care nothing for the natural laws of the *bees*, so long as I give them just room enough for them to store the honey. I do care to study the natural laws of my queens, and see that they have proper accommodations to display natural laws. She is the one I look after, not the bees—the bees will always do their duty, but the queen will not always do hers.

When you neglect to reverse the brood-combs, swarming is the result. To have the field workers broken up in small squads is bad, for from them you can get nothing but small returns. I want from 100,000 to 150,000 field workers in each hive at the height of the honey-flow.

The reversible frame is too good a thing for me to abandon, no matter what others may say against it. They have come to stay in my apiary. If they are objectionable to others, it is simply owing to their letting prejudice run away with their good judgment. Why, I have departed from the ancient practice of nature's laws in manipulating bees! Prof. Drummond remarks thus:

"The laws of nature are simply statements of the orderly conditions of things in nature—what is found in nature, by a sufficient number of competent observers. What these laws are in themselves, is not agreed. That they have any absolute existence, even, is far from certain. They are relative to man in his many limitations, and represent for him the constant expression of what he may always expect to see in the world around him. But that they have any casual connection with things around him is not conceived. The natural laws originate nothing, sustain nothing. They are merely responsible for uniformity in sustaining what has been originated, and what is being sustained. There are modes of operation, therefore, not operators; processes, not powers."

For one thing, we do not demand of nature, directly, to prove bee-keeping. That was never its function. Its function is to interpret, and this, after all, is possibly the most faithful proof. The best proof of a thing is that we see it. If we do not see it, perhaps proof will not convince us of it.

The Circassian bees on suspended or hanging frames are worthless; on reversible combs, with proper management, they are wonderfully successful. Had I transferred them the first thing, I know they would have outstripped any other bees in my yard; as it was, they did not show what they could do until the drought began—from July 6 to Aug. 10. The Italian bees lost, and could not make a living; the Circassians gained, both in brood and honey, clear up to the close of the season on Nov. 2.

In recapitulation, I must say that I now like the Circassian bees. The reversible frame-combs is what did it. The bees prove to be very hardy, great workers, being out in rain or sunshine, when other bees are quiet. They are out in the morning very early, fly later at night, and gather honey when other bees do not. The queens are very prolific. They are the most gentle bees to handle without smoke. Smoke will make them as mean as can be, and if abused they will sting fearfully.

They build straight combs, and not thick ones. I see no honey-bulged combs, but all being so even and clean looking. I worked the two old queens all summer on 8 frames each, and there was not one pound of honey in the whole lot, but the comb was completely filled with brood. I think they are magnificent bees, and a very valuable race for crossing with other races.

The one and only objectionable feature that I see to the Circassian bee, is the tendency to build brace-combs. They draw out the comb from the sections, and attach it to the separators, which, when taking off the sections, deface the most beautiful cappings that I ever have seen. I am now sorry that I did not test them without separators; but this season I expect to give them a fair trial.

Their propensity to swarm is not desirable, as they cast such small swarms; but by reversing the combs as needed, and at the proper time, will break up their desire to swarm.

Collamer, N. Y.

INCREASE.

The Prevention of Increase by the Removal of Queens.

Written for the American Apiculturist

BY P. H. ELWOOD.

He who allows his bees to increase by natural swarming at their own good pleasure, may be called a bee-keeper; but it is only he who has learned to control increase, making it much, or little, or none at all, as circumstances may direct, that has earned the title of bee-master.

It is often well to know how to run a yard of bees without making any increase. When the bee-keeper has already more colonies than he can manage, it would seem foolish to make more, unless he has a good market for

bees. Quite often, when his locality is already overstocked, he finds it is his neighbors only who wish to buy, and at a price that barely repays him for foundation and hives.

Sometimes a person could profitably keep one yard in connection with some other business, if he knew how to manage them without increase, and with the least expenditure of time and work; the time and work to be chiefly given when the bee-keeper can best spare it, and not at the call of the bees. This method of running one yard with some other occupation, and the minimum amount of work and expense, may be the practice of the future, one strong argument against bee-keeping as a specialty being the uncertain value of the business when carried to a forced sale by the death of the bee-keeper, and the consequent uncertain provision for the apiarist's family.

Then another very large class are now producing honey at a greater cost than the selling price, and it would be unwise to enlarge a business already conducted at a loss. And it is always better to have the control of increase like everything else, well in hand and under well-laid plans, then a sufficient number of hives and supplies can be secured with some reasonable expectation of having them all used, and yet have enough in those years in which bees, when left to themselves, often swarm to death.

When running bees for extracted honey, it is comparatively easy to control swarming; for by giving them a large amount of room for both brood and honey, and extracting the old honey, and afterward the new just before the main flow commences (as ought to be done in any case, as it is of inferior quality) there will usually be no attempt to swarm; with reasonable attention to extracting afterward. This method is simple, and it would be well if beginners would stick to the extractor until they are successful with comb honey management.

When comb honey is produced it is much more difficult to control increase. It is easy in a swarming year to rear a crop of swarms, but not so easy to produce a crop of comb honey. The well-filled brood-nest so necessary to the successful production of comb honey is also very favorable to the forcing out of swarms.

A large hive well shaded and ventilated, with plenty of room in both brood and surplus apartments, will retard and sometimes prevent the issue of swarms, but there is no certainty about it, and it is better to have swarms issue earlier than in the middle of the honey harvest, as is apt to be the case with large hives.

Cutting out queen-cells, the withdrawal of brood, and the management of the brood-chamber as recommended by Mr. Simmins, will also delay but not prevent swarming, while there is danger of throwing the colony into a condition known as having the "swarming fever." In this state work to a large degree will be suspended, and the bees show by unmistable signs that they are dissatisfied. Many bees will desert their own hives and enter others, which seems to disaffect these also. The bee-keeper will be similarly affected when in the midst of a honey flow he comes to look into the surplus receptacles, or to notice the number of idle bees hanging about the hives. It is only strong colonies that produce comb honey satisfactorily, and no system of management will be successful unless the colonies are built up strong before the harvest. This is particularly true of the method I am about to describe.

I recommend the clipping of the queens' wings, believing it to be the best. There is then no loss of unexpected swarms, and no swarms to be hived from inaccessible places. In every apiary there are some colonies (in some seasons a majority) that will work right along without any attempt to swarm. When no increase is desired, there is no need of molesting them, as they usually produce their full share of comb honey. All other colonies, as they complete their preparations for swarming, should have their queens removed with one or more sheets of brood, and enough workers to protect it, and be placed in another hive or small receptacle provided for her. All queen-cells old enough to hatch within nine days should be removed from the old colony, and the remaining brood-combs pushed together, contracting the brood-nest that much.

On the eighth or ninth day after, all cells should be broken from the now queenless hive, leaving them hopelessly queenless. In a week or ten days longer, the old queen may be smoked back into the old hive. The success of this will depend somewhat upon the race of bees kept. When I had black bees there was seldom a failure, but as my bees became Italianized, the losses were greater.

Mr. Crane, one of the best bee-keepers in the country, takes this time to re-queen the most of his colonies by giving them a virgin queen, which is usually well received. If the queen is to be changed, the old queen can be killed at the time of her removal, and the brood-nest not contracted. The brood removed may also be returned to the old hive, or it may be used for nuclei, or put into extracting colonies, or used in a variety of ways that may suggest themselves to the average bee-keeper.

No colony should be left queenless longer than 21 days, as after the brood has all hatched, there may be no empty cells for storing pollen except in the sections. If the queen-cells are broken out at the end of seven days after the removal of the queen, there will often be another brood of queens reared from the brood remaining. I have never known such queens to lay anything except drone-eggs; but they are capable of leading off swarms, or of establishing a monarchy in the old hive that is hard to overthrow. Before I learned that the books were not right as to the time for breaking out cells to make a colony hopelessly queenless, I had many such cases, and this is the only kind of "fertile worker" I have ever been troubled with.

This system of non-swarming works well with me, and undoubtedly will do the same in localities having a similar honey-flow. In other sections, modifications of the plan may be adopted to meet the varying circumstances. With sectional hives like the Heddon, a whole half of the brood-chamber might be taken with the queen and returned with the queen at the proper time, which, with me, is usually near the close of the white honey harvest. Or the sections might be changed, leaving the queen out longer than the 21 days.

It is said that queenless colonies do not work so well, but I by this method get extra strong colonies, and as much honey as by other methods, with less work and expense.

This method of non-swarming is not recommended after a short trial, for it has been worked for several years with thousands of swarms in different bee-keepers' hands, and tons of honey produced. In answer to the objection, that honey produced by queenless colonies is not as choice as that produced otherwise, I will say, that honey so produced took the highest prize at the Centennial in 1876, and later at the Paris Exposition, after having been carried across the ocean and exhibited in the original packages.

In the fall I have not found the brood-chambers of such hives any heavier on the average than others, neither have I or other bee-keepers discovered that such colonies failed in winter because of too much bee-bread. With reasonable attention we are sure of having no swarms issue, and I know of no other way by which we can uniformly reach the same result.

Starkville, N. Y.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	Club
The American Bee Journal	1 00...	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers'Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 onnces, $1; ¼ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.

HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.
June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 14c.—Dull.
BEESWAX.—23@24c.
June 14. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—Prices range from 15@16c. for best one-lb. sections; other grades are slow, at lower prices. Extracted, 7@8c. Light demand, and supply larger than usual at this season of the year.
BEESWAX.—23c.
R. A. BURNETT,
May 1. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@65c. per gallon.
BEESWAX.—Dull at 23½@24c.
Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.
Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is good. Comb boney, 12@15c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Jun. 14. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.
Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 17@19c.; 2-lb. sections, 15@17c. Extracted, 7@10c.
BEESWAX.—20@23c.
Mar. 1. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice white 2-lb. sections, 17@18c.; dark 2-lbs, 14@15c.; choice white 1-lbs., 18 to 20 cts., dark 1-lbs., 15@16c. White extracted, 7@8c.; dark, 5@6c. Demand is slow. White extracted is firm when in 60-lb. tin cans.
BEESWAX.—21 to 22c.
Mar. 29. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.
Mar. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote for new extracted 6@4½c., as to color and quality. New comb honey 14@10c., as to quality. Arrivals are still small, and demand of a jobbing nature.
BEESWAX.—Scarce, 20@24c.
June 2. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.
June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Advertisements.

FOR SALE—600 Colonies in the movable-comb hives, at $4.00 for Italians, and $3.00 for Hybrids.
25A13t **G. H. ADAMS**, Troy, N. Y.
Mention the American Bee Journal.

ITALIAN QUEENS—Untested, 75c. each; 6 for $4.00; 12 for $7.50. Address,
26Atf John Nebel & Son, High Hill, Mo.
Mention the American Bee Journal.

ITALIAN Bees for Sale.—1 Queen reared by natural swarming, $1.25; 3 ditto, $3.00; 2-frame Nucleus with any Queen, $2.00 extra.
W. H. SHANER,
26A1t LEECHBURG, Armstrong Co., PA.
Mention the American Bee Journal.

Italian Queens by Return Mail.

I **CAN** now send QUEENS by return mail.—Select Tested, $2.00; after July 1st, $1.50. Queens warranted purely mated, $1.00; 6 for $5.00. Safe arrival guaranteed.
J. T. WILSON,
26A1t NICHOLASVILLE, Jess. Co., KY.
Mention the American Bee Journal.

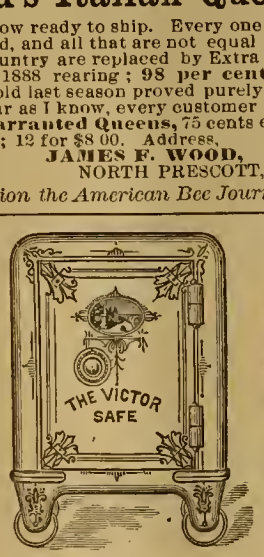
SOUTHERN HONEY WANTED!

WE are likely to have good use for a lot of **Southern Honey** in the near future, and invite shipments **now.** Address,
CHAS. F. MUTH & SON,
26A3t Freeman & Cent. Ave., Cincinnati, O.
Mention the American Bee Journal.

Wood's Italian Queens

ARE now ready to ship. Every one is warranted, and all that are not equal to any in the country are replaced by Extra Tested Ones of 1888 rearing; **98 per cent.** of all Queens sold last season proved purely mated, and, as far as I know, every customer is satisfied. **Warranted Queens,** 75 cents each; 6 for $4.25; 12 for $8.00. Address,
JAMES F. WOOD,
26Atf NORTH PRESCOTT, MASS.
Mention the American Bee Journal.

VICTOR SAFE.



DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.

We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with sub-treasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,... CHICAGO, ILLS.
Mention the American Bee Journal.

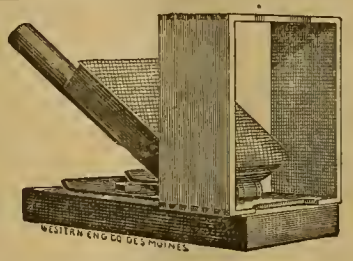
CARNIOLAN QUEENS.

Gentlest bees known; not surpassed as workers even by the wicked races.
Imported Queens, "A" grade, $8.00, Tested, $4.00; Untested, $1.00,
One-half dozen $5 00
Never saw foul brood. Cash always required before filling an order.
S. W. MORRISON, M. D.,
14Etf Oxford, Chester Co., Pa.

SMITH & SMITH

We have one of the largest
Bee-Hive Factories in the World.

☞ If you are interested in BEES, send for our Price-List—*Free.* Good GOODS, and fair Prices. Address, **SMITH & SMITH,**
10Etf KENTON, Hardin Co., O.
Mention the American Bee Journal.



(Patent applied for).

BEST FOUNDATION FASTENER for Brood-Frames and Sections. Description and Illustration sent free on application.
J. W. BITTENBENDER,
20Etf KNOXVILLE, Marion Co., IOWA.
Mention the American Bee Journal.

TESTED ITALIAN QUEENS, $1 each: Untested, 75 cents each; 3 for $2; 12 or more, 65 cents each. **75 cents** per pound for **Bees. Albino Queens** same price.
26A1t **I. R. GOOD, Nappanee, Ind.**
Mention the American Bee Journal.

SAMPLE COPIES of the **AMERICAN APICULTURIST** and our Price-List of
Winter Strain of Pure Italian Bees
sent free. Address,
18Etf **APICULTURIST,** Wenham, Mass.
Mention the American Bee Journal.

BEE-SUPPLIES, RETAIL AND Wholesale.

The Largest Steam-Power Shops in the West: exclusively used to make **Everything** needed in the Apiary, of practical construction and at **Lowest Prices. Italian** Bees, Queens, 12 styles of Bee-Hives, Sections, Honey-Extractors, Bee-Smokers, Bee-Feeders, Comb Foundation, and everything used by Bee-Keepers always on hand. My Illustrated Catalogue FREE. **E. Kretchmer,**
16Etf **Coburg, Iowa.**
Mention the American Bee Journal.

Eaton's Improved
SECTION-CASE.
BEES & QUEENS. Send for free catalogue. Address
FRANK A. EATON,
7Etf BLUFFTON, OHIO.
Mention the American Bee Journal.

ITALIAN BEES and QUEENS.

ONE Untested Queen, $1.00; 3 for $2.00. BEES by the Pound and Nucleus. Send for Price-List.
Address, **H. G. FRAME,**
9E13t **North Manchester, Ind.**
Mention the American Bee Journal.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.
Mention the American Bee Journal.

GLASS PAILS FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.

Prices are as follows:

To hold 1 pound of honey, per dozen, ...	**$1.60**
" 2 pounds " "	**2.00**
" 3 " " "	**2.50**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.

WE will SELL CARNIOLAN QUEENS, reared in June, July and August, 1888, until further notice. Untested queens $1.00; tested, $2.00; tested and selected, $3.00.
ANDREWS & LOCKHART,
24Atf PATTEN'S MILLS, Wash. Co., N. Y.

NEW ONE-POUND HONEY PAIL.

THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **Price, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.....CHICAGO, ILLS.

10 per cent. OFF

ON SECTIONS, from prices given in price-list. We make **four grades** of **COMB FOUNDATION—Heavy Brood, Light Brood, Thin & Extra Thin** for Sections.

☞ Send for free Price-List and Samples.—**Dealers,** write for special prices.

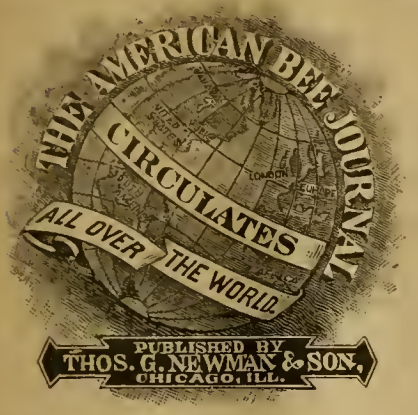
Address, **M. H. HUNT,**
Bell Branch, Wayne Co., Mich. (near Detroit).
Mention the American Bee Journal.
2Etf

2-Story Langstroth Hive, 80c.

WE still have a few of those Two-Story **Langstroth HIVES** with 10 Brood-Frames, at **80 cents.**

Who wants them? Speak QUICK, or it will be too late. Address,
SMITH & SMITH,
10Etf KENTON, Hardin Co., OHIO.
Mention the American Bee Journal.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS



THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. July 4, 1888. No. 27.

EDITORIAL BUZZINGS.

Our Friends—The Flowers.—Under this heading the following lines by Tudor Williams, of Albany, N. Y., may be found in *Vick's Monthly* for July :

Ye beauteous blossoms, bright and frail,
My spirit's sweet enchanters, hail !
Ne'er did your gentle magic fail,
Whether ye blushing be, or pale,
Or dyed in sunlight's golden hue,
Or wear the sky's unsullied blue ;
Swinging full censers of perfume,
Or gladening me with scentless bloom ;
Whether low nestling on the ground,
Or decking shrub and tree are found ;
Whether in summer's prime ye blow,
Or nigh the season of the snow ;
Whether your home in open air
And all the clime's caprices dare,
Or in a crystal-walled retreat,
Pampered, ye bask in genial heat ;
Whether the tiller's pride ye be,
Or thrive in wilds, unkempt and free ;
Whether in myriads on the mead,
Tempting the *swarming bees* to feed,
Or in the twilight of the wood,
Pining, a sparse and puny brood,
Or, matchless, in lone nooks upspring,
Or to the creviced crags ye cling ;
Wherever hiding, still my friends,
Whose graceful forms my speech transcends.
In every mood, of gloom or joy,
When thought is light, or cares annoy ;
In sunny or in darksome hours,
Always my comrades boon, O, flowers !

Every Bee-Keeper who realizes the importance of the work now being done in the interest of the pursuit should send a dollar to this office and become a member of the National Bee-Keepers' Union for the ensuing year. "In Union there is strength." Reader, can you afford to remain outside any longer ?

Nothing has yet Developed relative to the admission of queen-bees to Canadian mails, so far as we have been able to learn.

A Pleasant Notice is given to the Rev. L. L. Langstroth by Mr. O. Poole, a correspondent of the *Australasian Bee Journal*, which has just come to our desk. He seems to have a keen appreciation of the labors of Mr. Langstroth, and the benefits conferred upon modern apiculture by his inventions. He says :

One interesting feature in the AMERICAN BEE JOURNAL is the portrait and biographical sketch of some member of the bee-keeping fraternity. The number for Jan. 25 contains an excellent portrait of Father Langstroth, with a short but concise biography of the reverend gentleman, who is now in his 78th year. I am sorry to learn that he has very indifferent health, and that pecuniarily he is not situated as he should be. One of the American bee-societies recently raised a subscription and sent him a small donation, for which he expressed many grateful thanks.

Now, this is not as it should be. Do bee-keepers in America, in England and Australia realize to what extent they are indebted to Father Langstroth, not only for his invention of the frame hive, but also for his excellent work on apiculture ? I trow not. If they did, not a moment would be lost in getting up an universal subscription over the whole bee-world in aid of this veteran apiculturist.

We should be glad to know that the bee-keepers of the world had subscribed to and provided a life annuity for this good man, who has benefited them so much by his invention of the movable-frame hive. In order to start such a matter we will make an annual subscription of $25.00. Who will follow ? Let us all club in and do the thing handsomely. European and Australasian apiarists are invited to join with us in providing for this annuity.

Sometime since we mentioned the fact that a move was made on the quiet to provide an annuity for our aged friend, and that Dr. Miller had the matter in charge. Any further subscriptions should be sent to him, and not to us. If desirable they may be sent direct to Father Langstroth, whose address is 928 Steele Avenue, Dayton, O.

In order to ascertain what Americans had been doing in this matter, we wrote to Dr. C. C. Miller, of Marengo, Ills., and we received this reply :

FRIEND NEWMAN :—You ask me if there is anything for the public, with regard to the fund for Father Langstroth. I had no thought originally of saying anything publicly about it, but in courtesy to your request I may say that a response has been made very gratifying in some respects. You will remember that whatever was sent to Father L. was to be entirely a free-will offering out of a sense of justice or good-will toward the recipient, without even the reward of the little notoriety that might be obtained from the publication of the list of names of those participating. So it is a matter of unselfish and hearty cordiality, and this with warm words accompanying, highly heightens the value of the substantial aid received by the good old man. If a list of names were to be published with amounts attached, I have no doubt that the amount could be increased many times.

Our English friends are doing well in making the move they have, but it is only justice to say that a few on this side have responded just as liberally or more so, with no other reward than the consciousness of doing a right thing. Some forty have thus far responded in sums of one dollar and upwards, amounting to about $250 in all. How much happiness has been caused in the hearts of both donors and recipient is known to them alone. C. C. MILLER.

We have no desire to parade these subscriptions, but a certain amount of such must be done in order to get anything like a unanimity in the matter. We do hope that American apiarists will do their whole duty in this affair, and do it promptly.

Another Biographical Sketch will appear in out next issue, with a portrait of one of America's prominent apiarists.

The Third Annual Report of the General Manager of the National Bee-Keepers' Union will be published in a few days and mailed to all the members with Voting Blanks for officers for the coming year. We hope that a general response will result in renewed subscriptions for the coming year. As the fees are now reduced to a dollar a year, thousands should flock to its standard at once.

Queenlessness of a colony of bees should be remedied as soon as possible, for the very existence of the colony is in danger—the means of perpetuation having been lost. When dividing a colony it is sometimes uncertain in which "half" the queen may be. It can easily be determined which "half" is queenless by looking at each about half-an-hour after the division. The bees will be excited, some running about as if looking for something. The queen is lost, and they are trying to find her. That half is without a queen.

Goods of every kind and description sell better when put upon the market in a neat and attractive condition. Honey is no exception to this rule. Crates should be neat and clean ; sections ought not to be covered with daubs of propolis here and there. The honey should be capped and nicely arranged in the crates, which should have at least one glass side, so as to prevent rough handling, by showing the delicate nature of the contents.

A Good apiarian display is to be made under Governmental supervision at the Cincinnati Centennial Exposition next month. Quite a number of articles, showing the history and development of the industry, have been sent from the Museum of the AMERICAN BEE JOURNAL. After the close of the Exposition they will be forwarded to the National Museum at Washington for permanent display. We will publish a list of such in our next issue.

We Regret to learn that Dr. G. L. Tinker has been quite ill for the past few weeks. He is now convalescing slowly.

GLEANS OF NEWS.

Bogus Honey and Comb.

We have the following letter from Mr. W. M. Evans, relative to the manufactured honey-comb story. He starts it in this manner:

AMHERST, Va., June 22, 1888.

EDITOR AMERICAN BEE JOURNAL:—On page 388 I see that you have published some correspondence, and made some statements which demand a few words from me. I will try to make my remarks as "short and sweet" as is possible.

"A reward of $1,000 to the person who will furnish evidence that Comb Honey has been manufactured, filled with honey and capped by machinery, etc.—A. I. Root."

Now compare this with Mr. Doolittle's statement in the *American Rural Home*, viz: "Mr. Root, of Ohio, has a standing offer of $1,000, for a sample of manufactured *honey in the comb*." (Italics are mine.) Here Mr. D. does not say a word about making comb, filling or capping it by machinery. If Mr. D. should feed his bees any mixture and cause one colony to store 500 pounds of comb honey in one season, would this not be "manufactured honey in the comb?" Can any sane man say that Mr. Root's offer and Mr. Doolittle's statement of it cover the same ground?

Tut! Tut! You are too fast! There is nothing in Mr. Root's challenge about offering a *Reward* of $1,000. A Reward is something given in exchange for goods, services required, etc. He did not desire to receive a sample of bogus comb honey! Mr. Root's words, in his card, were:

I will pay $1,000 in cash to any person who will tell me where comb honey is manufactured by machinery; or I will pay the same sum to any one who will find manufactured comb honey on the market for sale.

Is there a word about REWARD in that? That idea is manufactured by Mr. Evans, we fear, for capital. Again, the manner of wording this REWARD sentence makes it nonsensical. The Reward is offered for evidence that "comb honey has been manufactured, *filled with honey*, and capped by machinery, etc." "Comb honey" is comb filled with honey, and when it is so filled it cannot be *again filled* with honey, or anything else. Mr. Evans has conveniently transposed these two words from "honey-comb," as we used it in the twelfth line of the second column on page 388. If you could get "honey-comb" made, it could then, perhaps, be filled with honey, etc., but comb honey, being *full*, cannot be again filled with anything!

The unfortunate wording of both Mr. Root's and Mr. Doolittle's statement concerning the offer, is to be regretted, because it may lead to complications. It must be understood that the offer of Mr. Root is as stated on page 388 in the 12th, 13th and 14th lines of the middle column, viz: that he offers $1,000 for proof "that honey-comb is made, filled with glucose, and sealed up by a machine made for that purpose!" or for proof that such bogus stuff is on the market for sale. This is what Messrs. Root and Doolittle intended to state, even if they did not do so very clearly.

Mr. Evans then gives the following historic account of the controversy:

Now, at the time I wrote (May 4) to the *American Rural Home*, I had never heard about Mr. Root's offer, nor I did not know that any one had made any such statement calling for any such offer; and, besides this, I had some months before, in the same paper, referred to some very remarkable statements made by a Jersey and Hudson River apiarist to a reporter of the New York *Times*. One of them said that he had sold that season 10,000 pounds of apple blossom comb honey; and the other claimed to have sold 20,000 pounds. At the same time I offered $250 for a 5-pound box of pure apple-blossom comb honey, and my offer has not been accepted up to this date, and never will be.

At the time of the blooming of the apple trees, the bees are not in condition, usually, to gather much honey, even if the weather were propitious; and the little that is gathered is consumed by the bees while rearing the brood, so that comb honey from apple blossoms is a very rare article. That accounts for the non-acceptance of Mr. Evans' offer. Reporters get things MIXED, and very often convey a very different idea than that which was presented by the person interviewed. That might have been the case with the Hudson River apiarists—and probably it was a gross preversion of the matter as stated by them!

Again Mr. Evans reverts to "manufactured honey" in these words:

Now from Mr. Doolittle's reference to Mr. Root's offer, I understood that it applied to adulterated, or as Mr. D. puts it, "Manufactured *honey in the comb*;" and you will notice that I say that "the Wiley lie is true as to the adulteration of comb honey." I wrote to Prof. Wiley to find out whether he had ever stated that the comb had been made by machinery, though I then did not believe that he or any one else had ever made any such statement. I was not "non-plused" (as you say) at all, but merely wanted to get at the facts before I replied to Mr. Root's card.

To affirm that a *lie is true*, is equivalent to saying that it was wholly false, which it is, *tru*-ly!

Prof. Wiley's statement was made in these words:

In commercial honey, which is entirely free from bee-mediation, the comb is made of paraffine, and filled with pure glucose by appropriate machinery.

And it is a positive falsehood which he made, believing at the time (as he has since stated) that it was not possible commercially to imitate the comb. It was a wilful, malicious, unprovoked, and deliberate falsehood, and yet Mr. Evans tries to make us believe that it is a true statement of fact, after its author has been driven to admit its untruthfulness, and to state that he had no proof upon which to predicate it!!

Now here is a bluff from Mr. Evans. He says:

You say, I "propose to fight a wooden man in the shape of adulterated honey!" Now if you mean business, I will make my original proposition a little stronger; I will wager $5,000 that American apiarists have adulterated their comb honey. The names of those who have done so are recorded, and can be published if they wish it. "Barkis is willin'." "The proof of the pudding is in the eating." Try me.

The vile aspersion that "apiarists are adulterating their comb honey" by feeding the bees with trash, for that purpose, is too base to receive attention! It was born in the addled brains of an English clergyman tourist—repeated in the ears of our British cousins, to their delight, as some of the wonderful stories of this wonderful hemisphere of the West—and published in our British cotemporary apparently for the purpose of injuring the sale of American honey in Europe!

Now Mr. Evans tries to cram this tissue of falsehoods down our throats, and persuade us that it is an innocent sugar-coated pill.

True Christians are not gamblers; they do not wager, bet, lie, steal, etc. They leave that to the men of low morals, tendencies, and education. So we must decline to accept his "wager"—our principles are at stake!

Mr. Evans becomes aggressive, and makes this statement:

By the report of the Bee-Keepers' Convention last November, in Chicago, as published in the *Country Gentleman*, I notice that one apiarist said, that "it was none of the public's business what they fed their bees;" and this remarkable statement was at least endorsed by silence. Do you, Mr. Editor, endorse this sentiment?

There, again, is a misstatement of the matter presented. At the Chicago Convention, the subject of preparing food for the bees during their winter confinement, was discussed, and one member made this statement, as quoted from the official report as published in pamphlet form on pages 30 and 31:

Bees are not natives of a northern climate, and when we bring them here we may be obliged to make changes in their food; and to say that all this must be explained to the public is foolish; that is our business.

How different that is to the idea sought to be conveyed by Mr. Evans. He tries to convey the idea that bee-keepers feed the bees something to have stored in the surplus department to be sold as honey—while the discussion referred to is one on the best food to be supplied to bees in winter confinement to keep them from becoming diseased, because they have been taken from their natural, warm *habitat* to a cold northern latitude! How much interest have the public in such abstract discussions? Such absurd misrepresentations are certainly amusing.

From the fact that it WILL NOT PAY to feed the bees with glucose, or anything else, to have them store it in the surplus comb, there is no danger of the bee-keepers furnishing that bogus stuff to the bees to have them store it, and then to put it upon the market. Mr. Evans is, therefore, in a worse plight than ever, while attempting "to fight a wooden man in the shape of adulterated honey" in the comb.

Another point raised by Mr. Evans is thus stated :

One thing more, in relation to the publication of Prof. Wiley's letter to me : I do not know that he will care, yet Mr. Root should not have published a private letter without the consent of Prof. Wiley or myself.

Prof. Wiley never thought of asking permission of the apiarists to publish his lying fulmination, and anything that could explain his position on that subject belongs to the public. The fact is, that he should have written and *published* a refutation of his lying article years ago.

Mr. Evans than concludes with the following :

You say I am a "crank of the worst type," because I take more stock in the prayers of action, which give our neighbor the needed help or honest treatment, rather than by wind praying. Well, I am glad to be a "crank." I am a "crank" who does not believe that Jesus ever made or drank fermented hell-juice ; and I also believe that we can do more for God *in* humanity, than by running a wind-mill for His glory.

Your "cranky" servant,
W. M. Evans.

It is not in order to discuss political or religious topics in our columns, but when a man calls sacramental-wine "hell-juice," we think he has justly earned the title of *crank*.

Thus is Mr. Evans driven from every position he has taken. He said that the Wiley lie was true, but its author admits that it is a mere fabrication as a "scientific pleasantry !"

He positively denied that any responsible man ever made an offer of $1,000 for proof of the manufacture of honey-comb, filling it with bogus honey and sealing it over by machinery—but we introduced him to Mr. Root, who made the offer, who proved his identity, and exhibited unchallenged his responsibility for the amount offered !

He charges that the bees were being fed with glucose to store it in the surplus combs for the bee-keeper to put it upon the market for the fraudulent profit to be derived therefrom—but we have shown that repeated trials of even feeding back pure honey to be put by the bees into the combs to be sold as comb-honey is unprofitable, and can be done only at a loss ! No one would think of adulterating any article, when it could not be done at a financial profit !

We might go through his whole list of points with the same disastrous result to him—but it is quite unnecessary ! He is beaten at every turn, and now should "crawl into his hole" and "pull the hole in after him."

The North American Convention is to be held at Columbus, O,, but the time is not yet decided upon. The following from Dr. A. B. Mason on the subject will explain itself :

Several months since I suggested that the place selected for the holding of the next meeting of the North American Bee-Keepers' Society be changed from Toledo to Columbus, Ohio ; and after quite a good deal of correspondence with some of the members of the Society, the Executive Committee decided to take a vote of the Society in the matter.

A circular was prepared by the Committee a short time since, and a copy, with a postal card directed to me, was sent to each member of the Society by the Secretary, stating the reasons for, and desirability of, making the change, with the request that each say on the postal what his or her wish was in the matter. When all but thirteen had voted, I wrote to each of them asking them to vote. All but six have responded, and so far every vote but one has been for the change ; so the next meeting of the Society will be held in Columbus, Ohio.

I have delayed giving this notice, so that I might give the time of meeting, but as yet the Executive Committee has not been able to agree on the time.

Last week I sent the plan for the building for the Bee and Honey Department of the Ohio Centennial Exposition at Columbus, to the architect. It is to be 36x80 feet in size, and most of the space has been applied for. Applications for space and entries close Aug. 6.

A. B. Mason,
Pres. N. A. B. K. Society.

A Cuban Apiary is described by Mr. O. O. Poppleton, late of Williamstown, Iowa, but now in Havana, Cuba, in *Gleanings* for June 15, 1888. He described the hives used, and the primitive method of taking away the honey thus :

A few days ago, Senor Pedro Perez, who is as pleasant and friendly a neighbor as we ever had anywhere, offered to take me to see a native Cuban apiary, and I will describe the little I saw, so that your readers will get some idea how what is known to commerce as "Cuban honey" is obtained.

The apiary contained 80 colonies, which is a very small one for Cuba. The hives varied from 6 to 12 inches square, inside measure, the large majority being 8 and 9, and 3½ feet long, made by nailing four boards, of the proper width and length, together, and a short piece of board over one end. So far they were very similar, except being longer, to the skeps, or gums, so many of which are still in use in our own southern States. They were not stood upon end, as our people use them, but laid down on the side, the same as are the earthen hives in use in Cyprus and Syria. One entire end of the hives was left open, and this is the only peculiar feature there is which is different from methods in use in other countries, and which have already been described in the journals. The hives were laid on poles, so they were about 2 feet above the ground, the poles being supported on crotches, old boxes, barrels, or anything they could get. They were scattered around among some large banana plants, to protect from the sun.

At least once a year during the honey-flow in the winter, and sometimes also in August, everything in the hives except the bees and the small amount of comb that may contain the brood, is taken away and mashed and strained by the old-fashioned processes. The result is strained honey containing all the different grades and flavors that may have been gathered during the year.

It was really interesting to walk around among the hives and look directly into their open ends, and see the bees clustered so quietly on their combs ; but I could not help thinking what an amount of fun there must be should they once get thoroughly to robbing. And, by the way, I find that bees do not rob so persistently here in the South as at the North, this being true, so far as I have observed, both in Florida and here in Cuba.

I am told that there are many large apiaries here in Cuba, of at least a thousand colonies each, all run on the same plan as is this small one I visited. I am also told that there are only three movable-comb apiaries on the island. The first was started by the Casanova Brothers, some five years ago ; this one about two years ago, and one now under way by Mr. A. J. King, near the centre of the island.

So far I am quite favorably impressed with the honey resources of Cuba ; and after I have been here at least a year, so as to know from personal knowledge what they really are, I will try to describe them.

Honey from the Poison-Ivy, etc.—John R. Sample, Elizaville, Ind., on June 18, 1888, writes :

Bees in this neighborhood are in good condition for the honey crop, but the weather is too dry for them to do much. My bees are working on what I suppose is poison-ivy. Is the honey poisonous ? We are having a good rain now, and we hope to have a good honey-flow yet.

The American poison-ivy (*Toxicodendron*) is closely related to the poison-oak, of which there are two kinds very plentiful in California, one being poisonous, the other not. Mr. Pryal speaks thus of it, and the honey obtained from the one not poisonous :

I have studied this plant, of which there are two varieties in our vicinity—one poisonous and the other not—and I have found it to be a valuable honey-plant. In this I am borne out by the testimony of others in this State, who have watched bees working upon it during its season of blooming, which is in March and April—the two varieties keeping up a large supply of blossoms for almost two months. The honey is quite clear and delicious, and is in fact for clearness and flavor equal to any gathered in the vicinity of San Francisco.

We would refer Mr. Sample to the article on poisonous plants, page 425, first column, of last issue of the Bee Journal, which shows that nectar, being a secretion of the plant cell, is charged with the active principle of the plant.

From C. H. Lake, of Catonsville, Md., comes a sheet of Comb Foundation of his "improved make." It has a parchment-paper "mid-rib," the corrugations being made in the usual way by passing the paper, with a sheet of wax on either side, through a Foundation Roller-Mill. He calls it the "indestructable," and we presume that it is rightly named ; a sheet of the proper size for a Langstroth frame weighs 7 ounces, and costs about 20 cents.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

QUERIES AND REPLIES.

The Mating of Virgin Queens.

Written for the American Bee Journal

Query 556.—1. If it is necessary to put colonies as near as a foot apart, will virgin queens, on returning to the hives, be likely to enter the wrong ones? 2. How long after a prime swarm issues, will a virgin queen generally take her first flight?—Tenn.

1. Yes, unless well provided with land-marks.—C. C. MILLER.

1. To a certain extent. 2. From 15 to 21 days.—G M. DOOLITTLE.

1. They will usually go to the right place. 2. About 13 days.—A. J. COOK.

1. I would be afraid of it. 2. From 10 to 20 days.—J. M. HAMBAUGH.

1. Not usually, but they may sometimes. 2. From 8 to 24 days; usually about 14 days.—A. B. MASON.

1. It is best to have them 3 feet apart. 2. If with a second swarm, 8 days after; if for her bridal flight, about 10 days.—P. L. VIALLON.

1. Sometimes they will, but generally they will get safely home. 2. Generally in about 2 weeks, sometimes less, and sometimes more.—M. MAHIN.

1. Yes, they may. 2. It depends on the age of the queen-cell at swarming time. It may be only 5 days, and it may be 10 or 12.—DADANT & SON.

1. Yes, unless some pains are taken to so fix the hives that they can be easily recognized. 2. It will depend upon the weather, to some extent. Under favorable circumstances, in 5 or 6 days.—J. E. POND.

1. In many instances, if no special "land-marks" are provided. 2. About 12 to 15 days.—JAMES HEDDON.

1. Not often, especially if a twig of leaves be suspended just over the entrance of the hive before the virgin queen is expected to issue. 2. About 13 or 14 days.—G. L. TINKER.

1. It is better to have the hives at least 4 feet apart. There is considerable danger of losing queens by entering the wrong hives if of the same appearance when only 1 foot apart. 2. I do not know certainly, but I think about 14 days.—C. H. DIBBERN.

1. Sometimes they do mistake their own hive. 2. Probably in 10 or 12 days, on an average. This depends upon the advancement of the queen-cells when the swarm leaves.—J. P. H. BROWN.

1. They will often enter the wrong hive at that distance, unless you have some distinctive mark placed on the hive. A piece of red cloth 6x12 inches is a good mark, tacked on the front of the hive. 2. From 2 to 21 days.—H. D. CUTTING.

1. Not often, except when their own bees threaten them as they alight at the entrance on returning from a flight. 2. Ten or twelve days, but the different circumstances make the time vary very much.—R. L. TAYLOR.

1. I think that they seldom get into the wrong hive. It would be an easy matter to put some temporary distinguishing mark in front of the hive from which a queen was expected to fly.—EUGENE SECOR.

They are not likely to do so, as a rule, but they sometimes may. There is more or less commotion at the entrance of the hive during the absence of the queen on her bridal tour. Italian bees often swarm without even starting a queen-cell, if they are strong, and there is a sudden flow of honey.—MRS. L. HARRISON.

1. I would not have my hives that close if I had to sell half of them to get more room. I do not think that young queens are often lost by entering the wrong hive. I have spent considerable time investigating the cause of the loss of so many young queens at mating time, and the cause is usually in their own homes. The young queens are "balled" when they return from their wedding flight, and sometimes killed. 2. If no after-swarm issues, the first young queen that hatches will destroy all queen-cells, and will be ready for her flight in 13 or 14 days after the swarm issues.—G. W. DEMAREE.

1. They may do so. It is best to mark the hives by paint of different colors, or by laying bricks or blocks or green boughs on the alighting-boards, so that the queen may distinguish her own hive on returning. 2. The time may vary greatly. I have examined a hive after swarming, and found no queen-cells even started, while on the same day I have examined another hive that had just swarmed, and found the virgin queen walking over the combs. The time has varied with me from 4 to 20 days. Some writers give rules, but I have never found any. The weather also affects the time of flight of the new queens.—J. M. SHUCK.

1. Yes; the danger lies in that direction. If they are placed so closely from necessity, they should be painted different colors, or some distinguishing objects should be placed to assist the young queen in marking the location of her hive. 2. Usually about two weeks—it may be much less, or more, depending upon the stage of development of the queen-cell at the time of the issuing of the prime swarm.—THE EDITOR.

Summer Management of Chaff-Packed Hives.

Written for the American Bee Journal

Query 557.—I use the double-walled chaff hives, the inside hive and also the surplus cases being ⅞ of an inch thick. In working for surplus in June and July, I remove the wall of chaff at the sides, leaving the cushion on top. Will it pay to return the chaff to the side walls after each manipulation? Or shall I leave it out entirely?—S. P., Mich.

Leave it out.—A. B. MASON.

I should leave it out.—EUGENE SECOR.

Leave it out entirely.—J. M. HAMBAUGH.

I would leave it out—J.P.H.BROWN.

I would leave it out, by all means.—G. W. DEMAREE.

No, no; leave it all off, certainly.—R. L. TAYLOR.

I would leave it out entirely.—MRS. L. HARRISON.

Leave the chaff out entirely, after settled warm weather arrives.—J. M. SHUCK.

It may be for your State, but in the South we use single-walled hives all the year round.—P. L. VIALLON.

After taking out the chaff in the summer time, leave it out; also the cushion.—G. L. TINKER.

I would not bother about returning the chaff; a dead air space, or none at all, is just as good.—C. H. DIBBERN.

If you mean that when the wall of chaff is removed from the sides, I think it will pay to return the chaff to the side-walls. If not, not.—M.MAHIN.

If I wanted to use a chaff-packed hive, I would use one that I did not have to disturb the packing at all.—H. D. CUTTING.

I see no reason for taking it out. Surely, it would better be put back if taken out. I presume that I do not understand the question.—A. J. COOK.

If I understand the question rightly, I should say that it was not necessary to return the chaff. Chaff is not necessary in any part of a hive in July weather.—G. M. DOOLITTLE.

Leave it out entirely during the summer season. It only tends to keep the sun from warming up the hive.—J. E. POND.

At the present prices of honey, the man who makes a lot of extra work will not succeed in our business.—JAMES HEDDON.

Chaff is entirely unnecessary in the hive, in summer. It keeps the hive too cool early in the season by not permitting the sun to affect the inside, and later in the season it tends to keep it too warm.—THE EDITOR.

CORRESPONDENCE.

The June Bees and Flowers.

Written for the Humane Journal
BY H. G. ADAMS.

The bees are buzzing in the lane,
And the sheep-bell hath a drowsy sound;
There is no wind to turn the vane,
And send the mill-sweeps round and round.

The laden wagon creaks along,
With fragrant hay upon it piled;
The little brook, with a sleepy song,
Winds here and there, like a wayward child.

And where its waters gather clear
Beside the bridge, in a shady pool,
The happy boys, without a fear,
Can bathe when they come out of school.

The bud, half hid in blossoms, flings
Its sweetness on the balmy air,
And seems to slumber as it sings,
As one who is without a care

Hot is the man who drives the sheep,
And hot are they who rake the hay;
All nature seems inclined to sleep,
Although 'tis broad and golden day.

The rooks are nodding on the trees,
Upon this sultry summer noon;
The heat is ninety odd degrees,
And 'tis the leafy month of June.

GOOD QUEENS.

The Laying Capacity of Good Queens.

Written for the American Bee Journal
BY G. M. DOOLITTLE.

On page 364, Mr. James McNeill has a "conundrum" which he wishes Doolittle to answer, and as I am in this world for a purpose, and that purpose to help my fellow men, especially bee-keepers, by explaining to them all I know of our pursuit, and giving a little light on dark points as far as I can, I will try to do the best possible on this conundrum, leaving the readers of the AMERICAN BEE JOURNAL to see how nearly right I am.

In the first place, if I conveyed to the minds of the readers by the article on page 323, or by any article, that a queen lays 3,000 eggs every day for two or three months in succession, I wish to say that I did not intend to convey any such an idea, for I am satisfied that all queens have certain periods of rest during which they lay very few eggs, these periods being brought about by the weather, secretion of nectar by the flowers, amount of pollen brought in, etc.

Then again, I am satisfied that queens lay eggs at many times which the bees never allow to hatch, and also that eggs are kept from hatching for indefinite periods by the bees, when again they allow such "kept" eggs to hatch within 24 hours to a far greater number than any queen could lay in a day, the bees having all this under their control; all of which has an important bearing on the subject. However, the important part of the subject is in having a queen capable of laying 3,000 to 4,000 eggs a day when we most need them, and not one that can never lay more than from 800 to 1,200 under any circumstances, as is frequently the case with cheap queens, as the past has shown me.

A queen was once sent to me as a present, by quite a noted queen breeder, and with all the coaxing that I could do, she would not exceed 4 Gallup frames of brood, her usual amount being about 3. I kept her for two years, hoping that she would do better, but as no better results were attained, I became disgusted with her and killed her. But more closely to the point: "How do I manage to make 9 Gallup frames give room enough for a really good queen, as it would require 11 such to give room for a queen capable of laying 3,000 eggs a day?"

In this locality we have, as a rule, but one really good honey-flow, that being from basswood, which blooms from July 5 to the 15th, and lasts from one to three weeks, the extremes being 3 days for the shortest I ever knew, to 28 days as the longest, in which honey was gathered from it.

Now, as the wise man would prepare for a harvest by engaging help for a large harvest of any kind, having that help on hand at the needed time, I try to take advantage of what these good queens can be made to do by crowding them to their utmost capacity from 25 to 50 days before the basswood opens, so as to get the largest possible force of workers on hand just at the right time to give me the best results. To this end my hives are made so at this time of the year they can be enlarged by slipping out partition boards, so that 10, 11, 12, 13, 14, and even 15 frames can be used as a brood-chamber, thus giving the best of queens a chance to do all she is capable of doing; 15 frames in a hive, filled nearly solid with brood 30 or 40 days before the honey harvest, is one of the most pleasing sights to a honey-producer of anything in this line of business—except tons of honey being exchanged for *cash* at the end of the season.

Later on, the object of the bee-keeper who has no fall harvest should be to reduce the brood as much as possible, consistent with having the colony in good condition for winter, for the rearing of brood *very largely* right in the height of the honey harvest means much of our surplus being fed to this brood, which are only to become useless consumers after the honey harvest is over.

Working along the line of this reasoning, (which nearly 20 years of experience has proven to me to be sound logic), as the honey harvest commences, I begin to work in an opposite direction by contracting the room given to the queen, till at the close of the season, 5 to 7 Gallup frames of brood are all that my hives contain, and these are frequently from ½ to ⅔ full of honey. This gives all the bees required for winter, and nearly enough honey for the same, so that little work is done along the feeding line.

If the above is not the right principle to work bees upon, then a part, at least, of my bee-keeping life has been in vain. A thorough trial of the plan will, I think, convince the most skeptical that it is *the* correct plan to work on.

In the above I think that Bro. McNeill will find a full answer to his conundrum, and I will only add that if queens of poor or only moderate value are used, our crop of honey must be poor or moderate; for only as we have a large number of bees at the right time, can we expect to attain to the highest point in the production of honey.

Borodino, N. Y.

WAX.

The Secretion of Wax—Is it Voluntary?

Written for the American Bee Journal
BY EDSON GERRY.

On page 325 this question was asked: "Is the secretion of wax a voluntary, or an involuntary, act?" An opinion was given, stating that it was "voluntary."

I am fully convinced from my own observation, that this secretion is involuntary; that the bees have no control over the generating of the secretions; and that it is a natural production, which may be seen on the under part of the abdomen of the young bees.

It is produced in a singular manner. The construction of the muscular rings around the abdomen are so formed that they are especially calculated to permit these secretions to ooze out from small holes located under these muscular rings; and when the secretions are dried, they form small, white flakes or pellets of wax; when ripe, if not removed, they will drop to the bottom of the hive.

Wax is produced only by such bees as are in a condition to be able to generate these secretions. My impression is that the young bees (while young they are fat like all the young of both animals and insects) would naturally

produce these secretions, and when they are of sufficient age to go to the field to labor (about 15 days old), they then soon become lean and poor, and can no longer produce the secretions from which the comb is made; whereas, if they continued to generate these secretions, when crawling over the blossoms to gather nectar, these flakes of wax would be lost, consequently there would be no wax to manufacture into comb. A bee when lean and poor cannot generate these secretions.

Lummi, Wash. Ter.

HISTORICAL.

North American Bee-Keepers' Society—Interesting Table.

Written for the American Bee Journal

BY M. M. BALDRIDGE.

The following table shows the number of annual meetings, where and when held, and three of the principal officers of the sessions named, who were elected at the previous meetings, after the first one:

No.	Place.	Date.	President.	Secretary.	Treasurer.
1st	Indianapolis, Ind	Dec. 21, 1870.	A. F. Moon	M. M. Baldridge	N. C. Mitchell.
2d	Cleveland, O	Dec. 6, 1871.	L. L. Langstroth	M. M. Baldridge	N. C. Mitchell.
3d	Indianapolis, Ind	Dec. 4, 1872.	M. Quinby	H. A. King	N. C. Mitchell.
4th	Louisville, Ky	Dec. 3, 1873.	W. F. Clarke	H. A. King	M. L. Dunlap.
5th	Pittsburgh, Pa	Nov. 11, 1874.	S. Hoagland	A. Pope	J. S. Hill.
6th	Toledo, O	Dec. 1, 1875.	W. F. Clarke	Dr. L. Brown	J. S. Hill.
7th	Philadelphia, Pa	Oct. 25, 1876.	G. W. Zimmerman	B. B. Overmeyer	J. S. Hill.
8th	New York, N. Y	Oct. 16, 1877.	W. J. Andrews	J. H. Nellis	J. S. Hill.
9th	New York, N. Y	Oct. 8, 1878.	J. H. Nellis	T. G. Newman	A. J. King.
10th	Chicago, Ills	Oct. 21, 1879.	T. G. Newman	E. Parmly	J. H. Nellis.
11th	Cincinnati, O	Sept. 28, 1880.	T. G. Newman	E. Parmly	Mrs. Dunham.
12th	Lexington, Ky	Oct. 5, 1881.	N. P. Allen	E. Parmly	Mrs. Dunham.
13th	Cincinnati, O	Oct 3, 1882.	A. J Cook	E. Parmly	Mrs. Dunham.
14th	Toronto, Ont	Sept. 18, 1883.	D. A. Jones	A. J. Cook	C. F. Muth.
15th	Rochester, N. Y	Oct. 28, 1884.	L. L. Langstroth	C. C. Miller	C. F. Muth.
16th	Detroit, Mich	Dec. 8, 1885.	L. C. Root	W. Z. Hutchinson	C. F. Muth.
17th	Indianapolis Ind	Oct. 12, 1886.	H. D. Cutting	F. L. Dougherty	C. F. Muth.
18th	Chicago, Ills	Nov. 15, 1887.	C. C Miller	W. Z. Hutchinson	C. F. Muth.
19th	Columbus, O	——, 1888.	A. B. Mason	W. Z. Hutchinson	Mrs. Harrison

I have taken especial pains to look up the past history of this Society, and I think the foregoing will generally be found correct. Still a few words of explanation may be both advisable and necessary.

It is generally supposed that Father Langstroth was the first President of the North American Bee-Keepers' Society, but the foregoing table shows that A. F. Moon, now deceased, had that honor. The writer was present during that meeting, and knows that A. F. Moon was its President from first to last. Father Langstroth was elected as the President of the Society for the following year, and the writer was instructed so to notify him, and to secure his acceptance of the honor, after the meeting adjourned, which was done by and through a personal visit to his home at Oxford, O.

As will also be seen, the writer was elected Secretary of the first meeting, and was re-elected to that office for the ensuing year. As will be remembered by a *few*, there were more or less trouble and jealousy, in the year 1870, about who should have the honor or credit of calling a National convention of bee-keepers, and the result was that there were two calls made—one for Indianapolis, by Prof. A. J. Cook, and the other for Cincinnati, by H. A. King. The Indianapolis convention met Dec. 21, 1870, and the Cincinnati convention on Feb. 8, 1871, and each held a two days' meeting.

Both conventions elected Father Langstroth for President, and N. C. Mitchell for Treasurer, but H. A. King was elected Secretary at Cincinnati to represent that convention for the ensuing year. Both conventions adjourned to meet in Cleveland, Ohio, on the same date, and at the same place. They so met, and as soon as they were called to order by W. F. Clarke, one of the Vice-Presidents, both associations were, by unanimous vote, dissolved for the purpose of *consolidation*.

The writer did not attend the Cinnati convention, nor the one held the same year in Cleveland, nor in fact any of the annual meetings since, except the last one held in Chicago. So much for a historical explanation.

St. Charles, Ills.

WATER FOR BEES.

Bee-Pasturage, Providing Water for Bees, etc.

Written for the American Bee Journal

BY MRS. O. F. JACKSON.

If I were going to raise a plant exclusively for honey, it would be mother-wort. It requires very little cultivation the first year, and after that it will take care of itself. It blooms the first year, and remains in bloom until frost. I think that it stands the drouth better than melilot. It is so much liked by the bees that they will not leave it even for white clover. I believe that it will pay bee-keepers to raise this plant. It will grow in the fence-corners, and on waste land; then why not raise it for the bees?

There is another plant which I value very much, and that is the pleurisy-root. It grows in great abundance where the ground has never been cultivated. The honey from this plant is quite dark, but of excellent flavor. I sowed Alsike clover, but the drouth last year killed it.

I received a package of the Chapman honey-plant seed from our Representative in Congress. I have now about 100 plants, and judging from the long, fibrous roots, it might stand our Iowa winters, and be of some value to bee-keepers.

My plan for watering bees in summer is as follows: Take a keg and make a small hole near the bottom, so that the water can drop. Now place a box or board in a convenient place, cover it with several thicknesses of cloth (old grain sacks are best); put the keg on this, and the cloth will be wet all the time. Cover the keg to keep the bees from getting drowned. Fill it with fresh water every morning, and a handful of salt once a week.

Before I adopted the above plan the bees were a source of trouble around the wells, watering-troughs and swill-barrels, and hundreds were drowned. Now I have no trouble with them, and the house-pump is only a few yards from the bees.

The spring was very cold and late here, and our loss was greater than ever before. The complaint is almost universal among bee-keepers. If one is met, and asked how the bees wintered, "O, I had bad luck," will be the prompt reply.

But there are a few exceptions in favorable localities where they sustained no loss in wintering; but after all the failure of the past year, we are hopeful, and the prospect for a good harvest is quite encouraging.

Sigourney, Iowa.

LARVAL BEES.

The Glands and the Food of Larval Bees.

Written for Gleanings in Bee-Culture

BY PROF. A. J. COOK.

Since the article which I wrote on the glands of bees and the food of larvæ, I have had some correspondence with L. Stachelhausen, of Salem, Tex., one of our German-American bee-keepers whose information and opinion are worthy of great respect. He does not accept the view of Schiemenz and Leuckart, which I presented, but that of Schonfeld. He presents his case with so much of reason that I am a convert at once, as all must be if the facts stated are as he represents them, and I have little doubt but they are. I am glad we have one in our neighborhood who is so conversant with German research, and so excellent a

scientist, that he sees the true bearing of each fact. I hope that he will not be allowed to longer hide his light under a bushel.

At my request, Mr. S. has consented to the publication of his views. He asks that I comment upon the subject, which I am very pleased to do, as I had already contemplated writing another article, giving the views of Schonfeld. I have re-written the article, and have commented in [ ]'s.—A. J. Cook.

Objections to the Gland Theory.

Until 1870 it was believed that chyme was fed to the young larvæ, or, rather, that the larval food in the cells is chyme. In that year, Von Siebold examined and described the salivary glands of the bee. The large size of these glands seemed to indicate that they had some other purpose than to secrete the saliva. It seemed possible that they might secrete the larval food. Fischer described these glands a year later, and expressed the same opinion as to their function. Leuckart then declared that he had taught this theory to his students for years.

I then thought this theory very plausible, and probably the true one; but I expected further study and a closer examination, but expected in vain. Von Siebold, and probably Leuckart as well, worked on other problems. I supposed a microscopic examination of the secretion from these glands would prove the identity of the same with the food of the larvæ, but no such proof was forthcoming. It may be said, that there is too little of the product of the glands for analysis. But just this seems to indicate that the comparatively small glands cannot secrete so large a quantity of larval food.

[This view alone would not count for much. There is too little nectar in most flowers for a successful analysis; yet the bees gather pounds of it in a day. Supposing that the lower head-glands of a single bee do not secrete enough material for successful analysis at any one time, yet thousands of bees might do this with the whole day before them, and have enough left to feed all the larvæ.]

In 1880, Schonfeld published his theory, which seemed to me nearer the truth.

Years before, Leuckart described the larval food as a granular, milky, uniformly colored fluid containing many microscopic corpuscles, similar or identical with the blood corpuscles, and with the corpuscles found in the chyle, or digested food, in the true stomach, which chyle passes directly through the walls of the stomach by osmosis. Wolff states that the blood corpuscles originate in the stomach.

Analogy of the mammalia favors the gland theory of Leuckart. It seems plausible that the young bee, like the young calf, is fed with milk; yet not so plausible when we remember that the larva is not a young bee. I would rather compare the larva to the embryo of a mammal, and this is nourished directly from the blood. The chyle of bees is, in fact, identical with their blood, and contains everything necessary to build up the body of the bee; so it seems rational and natural to suppose that the chyle is the larval food.

[Analogy is always an uncertain argument. In case of animals as wide apart as the mammalia and insects, it really has no force. Grant that it had, even then in the case in question it would be difficult to say which way the argument pointed.]

With higher animals, the origin of the chyle is more complicated, and digestion is completed in the small intestines. In bees, the structure of the canal is different; and it is possible that chyle originates in the stomach.

[Here chyle must mean the sum total of digestion. With higher animals, chyle means simply the digested fat, and is carried to the blood through a special system of vessels, while the other products of digestion are mainly absorbed directly by the blood-vessels.]

If the larval food and chyle are identical, of course we must depend on the microscope to prove it. If we examine the stomach of the worker-bee we find more or less partially digested food, but no chyle.

[From the fact that, in examining many bees, I have never found the granular milk-like substance fed to larval bees, was my principal reason for accepting the secretion rather than the digestion theory.]

Schonfeld made the following experiments, and hereby is explained how the chyle can be found in the true stomach of the nurse-bee:

a. Honey colored by cherry-juice is fed to bees in a starving condition.

b. Honey colored by holly-juice is fed in the same manner.

c. In like manner, honey mixed with pollen of the white lily, which is easy to distinguish with the microscope, was fed.

After feeding, in each case the contents of the stomach, and the larval food, were carefully examined with the microscope. In every case the food in the cells with larvæ was the same milky granular substance, with no color, nor any lily pollen. This larval food, then, could not consist of chyme or the material from the honey-stomach.

Every hour a nurse-bee was examined, and the process of digestion noted. The color was seen to fade out, *and the true chyle was found, differing in nowise from the food given to the larvæ.* While in the intestine, red and dark-colored excrement, mixed with pollen-husks of the lily, were plainly evident. *Many bees were caught, just about to feed the larvæ, and the chyle was found in each case.*

[This, of course, is crucial. Not finding chyle, like larval food, in the stomach, does not prove its universal absence. Finding it once, proves its existence. Granting the fact, the conclusion must follow.]

Salivary Glands of Bees.

All mature bees—workers, drones, and queens—possess—

I. The upper head salivary glands, and—

II. The thoracic salivary glands.

Besides these the worker-bees have—

III. The lower head salivary glands.

Glands I. and II. have a common ending at the base of the ligula, in the groove formed by the paraglossæ. This secretion can, as the tongue is extended, flow into the groove and wet the ligula, but can go no further, because the ligula, or sucking-tube, is no fountain-pump, and the larva has no sucking arrangement to draw this out.

[A stronger argument, perhaps, lies in the fact that drones and queens also have these glands, and surely they do not feed the larvæ. No one can think that these are the milk-glands, even if milk-glands exist.]

The secretion from glands I. is oily; that from glands II. watery, which would indicate that they possess a different function.

The function of the sucking-apparatus will show that the saliva is necessary to wet the ligula, and to make it possible that the nectar can ascend. It would require too much space here to explain the function of the sucking-apparatus, which is a misnomer, as bees neither suck nor lick.

[Very likely the saliva, like our own, may serve to aid in keeping parts moist; but from the size of the glands, and quantity of the secretion, this, as is our own case, must be incidental. I think our friend is surely mistaken in his last assertion. I think I have shown that bees do both suck and lick.]

If bees do change nectar more than to evaporate it—that is, if they change the kind of sugar (I am not sure that they do), then it is probably done by gland II. Such a change could be due only to a ferment, and could come only from the saliva.

[I know that bees change cane sugar to reducible sugar, both when fed cane syrup or nectar. I have had analysis made in both cases. While not all cane sugar would be reduced, most

would be. That the saliva from glands I. and II. does this there can be no doubt. Honey is digested nectar, the digesting ferment being this saliva. While the drones and queen are fed in part by the workers, yet they take honey; and unless this is fully digested by the workers, the drones and queen must finish the work, and so must have glands I. and II.]

The most important purpose of glands II., or their secretion is for the test-organs which are in the groove at the base of the ligula.

[I do not understand this point.]

Very likely the secretion from glands I. may be used to wet and smooth the newly formed cells. Thus these secretions are true saliva, and cannot be larval food. This is without doubt true. Yet organized liquids do often have a double use. The pancreatic juice in the higher animals digest starch, fat, and may digest the albuminoids—will in an alkaline liquid.

The Lower Head-Glands.

The ducts from the lower head-glands open into the lower part of the mouth, between the muscles of the mouth. If the bee chews, this secretion must surely empty and be mixed with the chewed material. This, then, is mixed with the pollen. This is certainly true; for the pollen in the honey-stomach shows some of its caps open or elevated; and as no gastric juice is secreted in the honey-stomach, this partial digestion is accomplished by the saliva, and presumably that from the lower head-glands. Further, this saliva is used in kneading the wax by the jaws. F. Huber (*New Observations*) says that the fresh wax scales and the chewed wax are chemically different; and Eulenmayer and Von Planta found in the wax scales 0.5977 per cent. nitrogen, while in the chewed wax there was 0.95 per cent. This must be due to this saliva. So we see that these glands secrete true saliva, and so cannot be organs to secrete bee-food.

[I have replied to the last argument before. The above positions are well taken. Is it not quite likely that these serve merely to mix with and partially digest the pollen, and that Wolff's glands at the base of the mandibles are the glands that moisten the wax?]

The large size of these glands is no argument favorable to the gland theory, if we take it into consideration that the saliva is very important in digestion, and in part takes the place of the gastric ferment of higher animals. Surely a large quantity of saliva is added to the pollen food of bees, and so this saliva is indirectly a part of the chyle and larval food.

[This is surely a powerful argument. We secrete saliva almost entirely to moisten our food, and the daily quantity is estimated at three pints. If this saliva in bees is to moisten the pollen, and the position of the duct adds powerfully to the argument, then much would certainly be needed. The fact, too, that drones and queens do not have these glands, and do not prepare their own nitrogenous food, is in harmony with, and, in fact, lends support to this view.]

We can find the same glands in other insects which do not feed the larva at all, as *Eristalis tenax*, which has these glands fully as large as those of the bee; and *Nepa cinerea*, which has these glands, and they are very similar to those in the bee.

[This is surely a very strong argument.]

The product of these glands cannot be spit into the cells, for bees never spit. Nor is it at all likely that this secretion is swallowed to be regurgitated into the cell. Nature always empties her products where they are to be used; so if there were milk-glands they would either empty into the honey-stomach, or else some apparatus would have been developed that this secretion might have been poured directly into the cells.

[I think these points are excellent.]

These glands are in full function all winter, when no brood is to be fed. They must then have another purpose.

[How is this when bees have no pollen for their winter food? Of course, they usually have the pollen.]

If a colony passes the winter queenless, and no brood be fed for five or six months, and then receives a frame of brood which has been kept out of the hive until the larvæ are in a starving condition, we observe that this brood is fed at once. If this food is a product of glands used only for such purpose, this would be absolutely impossible after such long rest.

[This is certainly a good point.]

If bees are fed honey mixed with indigo, the larvæ are no longer fed, but commence to starve, while the mature bees remain healthy. The indigo prevents contraction of the stomach, and so regurgitation is impossible; yet the food is digested and absorbed. If the larval food were a secretion it would still be supplied.

[Granting these facts, the conclusion must follow.]

The following experiments of Schonfeld prove that the larval food is chyle:

Bees were fed honey mixed with carmine. In the larval food of this colony, and also in the chyle of the true stomach of the bees, were found the chillinous points of the cochineal insects from which the carmine is made. The blood was normal, because the fine particles were not digested, and, of course, could not be absorbed. As a secretion is derived from the blood, the secretion could not have what the blood did not have.

[This is also a crucial argument. The facts granted, the conculsion must be.]

Powdered iron was fed, with the same results.

Again, bacteria were fed to the bees—at first *Bacterium termo*, and then the bacillus of foul brood—*Bacillus alvealaris*. In both cases the organisms were found in the larval food, but not in the blood of the nurse-bee. As these were not in the blood, they could not exist in a secretion from the blood.

[This is an interesting point, as it explains fully why the fasting method, or the changing of the bees to clean hives, cures this dreaded malady.]

Von Planta finds the food of the young larvæ as follows:

	Queens.	Workers.	Drones.
Albuminous,	46.5 ₱ cent.	50.16 ₱ cent.	39.91 ₱ cent.
Oil,	12.62 ₱ cent.	6.84 ₱ cent.	7.85 ₱ cent.
Sugar,	17.90 ₱ cent.	27.65 ₱ cent.	1.17 ₱ cent.

We see that the food for the different kinds of larvæ varies greatly in composition. If this is a secretion it could not vary, as the glands could not secrete arbitrarily a richer or a poorer substance. But if this is chyle, it is easy to understand its variability; it would necessarily result from a variation in the food of the nurse-bees as to honey, pollen, or water. The defenders of the gland theory say that the secretion may be mixed in the honey-stomach with honey or water—pollen is out of the question, as we have seen that it is not given undigested to the larvæ. The experiments with colored honey shows this to be untrue.

That chyme [Mr. S. uses this term to denote partly digested food] is added to the secretion of the gland is out of the question, because chyme is surely prepared in the true stomach, and not in the honey-stomach. In the chyme are the shells, or husks (cuticulæ) of the pollen, but no whole pollen grains. If we examine the stomachs of bees we shall never find such empty pollen grains—husks—in the honey-stomach, except in the case of quite young bees just recently emerged from the cells. These bees are fed by the older bees with chyme. In the true stomach we can find these shells, if we examine a bee at the proper stage of digestion.

As soon as the larva fills the bottom of the cell—from the close of the fourth day—the larva receives chyme, or partially digested material, from the true stomach, and this contains the cuticulæ. At first these are few, but more and more are added, so that, just before the cell is capped, they are

numerous. This is also true of color when colored honey is fed.

[This is very interesting, and bears the impress of truth. This chyme is fed to the larvæ of workers always, and sometimes, not always, I think, to the larvæ of queens.]

The defenders of the gland theory say that it is impossible that bees regurgitate any material from the true stomach in the cells; for, as Schiemenz has shown, the stomach-mouth is prolonged into the true stomach, and so would act as a valve, and prevent any of the contents of the true stomach from passing back into the honey-stomach and mouth. But Schonfeld has shown that this is a mistake. The muscles are so arranged that this prolongation can be drawn up, and so in nowise prevent regurgitation. The bee itself proves that it can, for the full-grown larva does receive chyme, the product of the true stomach, and not of the honey-stomach. If the bees can regurgitate chyme or partly digested food, they surely can chyle, or that which is fully digested. This is chyme and not pollen, as the husks show.

Why should we be surprised that the bee does this? It is a master of regurgitation, vomitting up all its honey, and some of it several times. A full understanding of the stomach-mouth enables us to understand how it regurgitates its chyme and chyle.

L. STACHELHAUSEN.

LARVÆ—NUCLEI.

Removing Sealed Larvæ—The Frames for Nuclei.

Written for the American Bee Journal

S. A. SHUCK.

In compliance with the Editor's request on page 405, I will answer the following questions from Mrs. Mary Blachly:

4. How should sealed larvæ be removed? 5. Is it necessary to remove it when pollen is plenty? 6. For a nucleus to keep queens over winter, how many frames of bees are needed, and how large should the frames be? Should there be empty frames put in with each queen's brood-chamber (or apartment).

4. With a thumb and finger pluck off the end of the cell, then with a small splinter or straw, such as timothy or blue-grass, lift the larva from the cell.

5. Yes. The principal object in removing the larvæ from all the cells found sealed on the fourth day after removing the queen, is to prevent 10 to 12 day queens.

6. This depends upon the method of wintering. If wintered on the summer stands, I should want a fair sized colony of bees, and not less than three frames the same size of those used in full colonies in my apiary, and these well packed for protection. I have wintered bees nicely in the cellar on three combs one-half the length and the same depth of the Langstroth combs. No; I should prefer to have the combs pretty well filled with good stores. If there is more than the bees can consume during the winter, it is much better than not enough.

The Rearing of Good Queens.

Concerning the rearing of good queens, perhaps it would not be out of place here to add a few remarks:

It should be remembered that the larvæ for good queens should be fed the royal food (food of larval queens) from the time the egg hatches until the cell is sealed. This is about five days.

When a queen is taken from a hive, it is some time before the bees miss her, and it is usually from 12 to 36 hours before they commence the construction of queen-cells.

Thus it will be seen that all cells, that are sealed inside of four days from the time the queen was removed, contain larvæ that were fed royal food for only a little over three days at the most, and in many instances less than three days. The queens from these cells will hatch in less than 12 days from the removal of the old queen.

These queens may prove to be quite prolific for a time, but they are very short lived, seldom living through the next season, and are the "cheap queens" so often condemned by our good editor.

With good Italian bees there is but little difficulty experienced in this direction, as it is seldom that young queens hatch in less than 14 days from the time the old queen was removed. But with black or hybrid bees it is quite different, as it is seldom over 12 days.

Liverpool, Ills.

FLORIDA.

A Beginner's Experience in Keeping Bees There.

Written for the American Bee Journal

BY N. C. LARSEN.

I began with 5 colonies of native brown bees in boxes or "gums." I let them swarm, and hived the swarm in a new hive on empty frames. I waited 21 days, and then transferred the old colony, using all the good comb that I could get. One of my old colonies had no brood, very little honey, and was queenless. I transferred them, but they left and went into an adjoining old colony which I transferred a few days afterward. Some of the old hives cast 2 swarms. I lost one fine swarm which was bound to go to the woods. They crossed the bay, or river, so I could not follow them. I finished up with hiving 6 good swarms and transferring 4 old colonies, leaving me with 10 colonies, all strong and doing well.

Having no foundation, I have had some trouble to get good, straight combs. Some of the colonies persisted in building the combs in all sorts of shapes, but the most of them have built nice, straight combs. I put the empty frames between full combs, and in that way I have compelled them to build nice combs. Six colonies have filled both stories full of comb; 1 colony has over 56 one-pound sections in wide frames, with separators; 3 colonies are yet working in the lower story, and all have plenty of sealed honey; I have not taken any from them yet, as I wanted them to fill up with combs. I think that some colonies have as much as 50 pounds of honey now, and if they continue to gather I will have to extract to give them room.

I painted the hives two good coats, placed them on wooden blocks 6 to 8 inches from the ground, under orange trees; I made boards about 30x30 inches, and nailed a 2x3 inch piece on each end, and placed them on top of the hive so as to shed the water. Those boards I value highly; they shield the hive from the sun and rain, and also keep the cover dry and tight.

The bees are of the large brown variety, with yellow and black bands. I suppose the old veterans would call them "blacks." They are very gentle and easy to handle. I very seldom get stung unless I hurt one of them. They gather lots of honey, and have never been hurt by the moth-worm, even in the "old gum." I have had them 4 years, and they have always done well. I like them so well that I shall keep them pure. Italians may be better, but these are surely good.

I live on a river, or bay, and have a water frontage for 1½ miles belonging to me. I think that I could keep 50 colonies with profit. At first I thought to get honey for home use, but I think now of preparing to make my own hives and frames, and foundation, as the freight down here is too high to think of buying everything. I have frames yet on hand for next season's increase.

My first swarm issued on March 14, and the last one on April 2. Our bees now are at their best, though I think they work all the year. I know they fly every day when it does not rain too hard—in fact, here it is always warm.

Shell Point, Fla.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Aug. 3. Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Cells on a Square Inch of Comb.—James McNeill, Hudson, N. Y., on June 21, 1888, writes as follows on the above subject:

Mr. Weidman, on page 407, is in error in supposing that I did not take account of both sides of the comb in my estimate of the cell capacity of Mr. Doolittle's hive. As we usually reckon 25 cells to the square inch, a frame of 115 square inches of surface would contain 2,875 cells on each side. To save figures, I multiplied the 115 by 50, which gives the number of cells on both sides of the comb. Mr. Weidman makes the mistake of doubling the surface of the comb, and then multiplying by 50, which gives him just double the number of cells that are contained in 9 frames of $10\frac{3}{4}$x$10\frac{3}{4}$ inches.

[You are quite correct. We referred to the mistake made by Mr. Weidman on page 419, of last week's issue.—ED.]

The White Clover Bloom.—B. H. Standish, Evansville, Wis., on June 22, 1888, writes:

White clover has been in bloom for two weeks here, and during that time we have had warm nights, more or less cloudy days, plenty of rain, and wind in the southwest—the conditions of perfect honey weather. But the bees have gathered very little honey—not 25 pounds of surplus in my 100 colonies here at home. People say, "There is lots of white clover this year;" but bee-keepers know better. There is not more than one-fourth of a full stand, and that amount seems overstocked by 100 colonies.

Strong Colonies, Tiering Up, etc.—H. C. Gifford, Morris, Ills., on June 21, 1888, writes:

Last fall I fed 21 colonies of bees 200 pounds of granulated sugar, and 10 pounds of uncapped honey. I packed them on the summer stands, and one colony starved to death; the balance wintered in good condition, but it was so cold and wet all the spring that they have not stored any honey yet. I never have had my bees stronger than they are at present. They have been ready to swarm for the last ten days, but they have not swarmed yet, although they are laying out all around the hives. I always place my hives up ½ inch all around, to cool the hives, and give the bees a chance to clean the bottom-board and keep it so; and also to give them more room. I always put the sections on as early as possible, to delay swarming as much as I can.

I am commencing to "tier up" with supers, hoping to prevent any swarming this season; for at this time, and especially such a season as this is, I would rather not have any swarms, for if we have a good fall, the honey that 20 strong colonies will store is worth more than the bees.

This has been the poorest season, up to the present time, that I have seen in 20 years. Many bees in this locality are swarming out, actually starved out; but the prospects are good for linden, which will come on soon. I am not discouraged, for the AMERICAN BEE JOURNAL gives me new life every week. The knowledge that I have gained from it in the last three weeks is worth five times its cost for the whole year. The benefits, and the plain, sensible reasons given by men of experience, derived from the system of "tiering up," to keep the bees all at work, and to give them plenty of room, and thereby destroy the inclination to swarm, is worth a great deal to any one who will practice it; and it costs money and time to learn these things by experience. I have never realized the half that I could from my bees, if I had taken the BEE JOURNAL years ago; and still my neighbors think that I am an expert, when in fact last year was my first real work in the bee-business, and I have kept bees for over 20 years.

No Room for Brood—Albino Bees.—Chas. D. Barber, Stockton, N. Y., on June 25, 1888, says:

Would it not be a good plan to take out some of the frames from my old colonies and put in empty ones? They have no place for brood, having filled it all with honey. They swarmed three times before June 20. The outlook is very good for a large honey crop. I have had 4 swarms from 2 colonies, and will have more soon. I have bought a queen and one pound of Albino bees, and as workers they are ahead of any bees that I have ever seen.

[If the queen has no place in which to lay eggs, the colony will soon become depleted. To take out the frames of honey which are more than are necessary to supply the needs of the bees, would be a wise act in this case, in order to give the queen the necessary room to keep up the strength of the colony.—ED.]

But Little White Clover.—Geo. Smith, Amadore, Mich., on June 21, 1888, says:

It looks at present as if the honey crop will be an entire failure. There is very little white clover, and but little honey in what white clover there is.

Managing Robber Bees, etc.—Ira N. Lyman, St. Peter, Nebr., on June 22, 1888, writes:

1. Do bees ever gather poison that kills them? I have a colony that has lost some bees. They came out of the hive and looked full, and do not fly, walk or run out of the hive. Some tried to fly, and fell in the grass, where they soon died. 2. My bees began robbing badly, and when they were flying thick, I carried away the hive that was being robbed, after closing the entrances of both hives. I then put the hive of the robber bees off its stand, and put the weak colony in the place of it. I kept the hive of the robbers closed over night, and put it in a new place, a hundred yards or more from the old site. I opened the hive of the weak colony as soon as it was put on the stand where the robber hive had stood. They carried their stolen sweets into the hive from which they stole it. The other colony seemed weak for awhile, and then were all right. Is that a good way to manage robber bees? I have done that way twice, and it seems to me it is a good way. I want to thank the readers of the BEE JOURNAL for information about Albinos and other bees, which I have received privately, and for circulars and books. Bees are not doing very well on the prairie. Honey is scarce yet. I have had no swarms, and swarming prospects are poor. I like the BEE JOURNAL first-rate.

1. The bees were evidently diseased, but it was not the result of gathering poisonous honey.

2. Interchanging hives is often practiced in case of robbing, and generally is an effectual cure.

Swarming, Chapman Honey-Plant, etc.—Mrs. J. B. Curlee, Tamaroa, Ills., on June 23, 1888, says:

Last year nearly all the bees starved here. I had 30 colonies, and lost all but 9. There are but few bees in this part of the State. We are having plenty of rain now, and bees are swarming. Bees here gather honey mostly from white clover (but it was all burned out last summer), and the Spanish-needle, which blooms in the fall. My Chapman honey-plant will be in bloom in a few days. It is 4 feet high, and has large balls on it, looking like the wild thistle.

White Clover not Plenty.—Dr. A. B. Mason, of Auburndale, O., on June 26, 1888, writes:

It has been a poor honey season in my locality. A few days last week were favorable, but now the cold and rain keep the pets at home. White clover is not very plenty, and but few bees are working on it.

The Queen-Excluding Honey-Boards.—J. F. McIntyre, of Fillmore, Calif., asks the following:

I have 500 colonies of bees in two-story 10-frame Langstroth hives. I do not want any more increase, as my field is fully stocked. I work exclusively for extracted honey. 1. Would you advise putting queen-excluding honey-boards on the hives of the whole 500 colonies? 2. How much would the honey-boards increase the disposition to swarm?

1. We should put on the queen-excluders.

2. In some years and some localities, such will tend to increase swarming—but this we would overcome in another way, which you will need any way, whether you use queen-excluding honey-boards or not.—HEDDON.

Honey Coming in Slowly.—Geo. Eidemiller, McGregor, Iowa, on June 25, 1888, says:

The honey comes in slowly. The season is too late, the nights too cold, and the honey-producing plants are too backward. Last year I started with 2 colonies; now I have 9 colonies. I am very much pleased with the AMERICAN BEE JOURNAL.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.

HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.

June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 14c.—Dull.
BEESWAX.—23@24c.

June 14. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—We get 15c. per lb. in a small way for best comb; and less for off grades. Extracted, best white, 7@8c. None of the new crop received yet, but there is more than sufficient of the old crop for the light demand.
BEESWAX,—22c.

R. A. BURNETT,
Jun. 30. 181 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@65c. per gallon.
BEESWAX—Dull at 23½@24c.

Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—We quote: Fancy white clover 1-lbs., 16@17c.; 2-lbs., 15@16c. Dark is slow sale at almost any price. Extracted is scarce, and sells at 7@10c.
BEESWAX.—23c.

Mar. 13. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is good. Comb honey, 12@15c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Jun. 14. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 16@17c.; 2-lbs., 15@16c.; 3-lbs., 14c. Extracted, white in kegs and ½-barrels, 8 to 8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 5@7c. Market fair.
BEESWAX.—22@25c.

Apr. 23. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@23c.

Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice new 1-lb. sections in good demand at 15@16c., not glassed; dark ones not searched; 2-lbs and extracted there is no demand for. Stock of old honey is light, and the sections are all glassed, which style the trade do not like.
BEESWAX.—None in market.

Jun. 30. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON

HONEY.—We quote: 1-lb. sections, 16@17c.; 2-lb. sections, 14@16c. Extracted, 8@9c. The market is not very brisk and sales are slow.
BEESWAX.—25 cts. per lb.

Mar. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Choice new extracted, 5 to 5½c.; amber to light amber, 4½@4¾c. Choice comb in 1-lb. sections, 13@14c.; 2-lbs., 12@13c. Arrivals are small, as apiarists are holding back. Prices are considered high.
BEESWAX.—18@22c.

Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.

June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, bright, 5@5½c.; dark, 4½@5c.; in cans, 7@8c. Comb, choice white clover, in prime order, 13½@15c.; dark, less. Market quiet with fair demand for extracted.
BEESWAX.—22c. for prime.

Jun. 27. D. G. TUTT & CO., Commercial St.

The Convention. — The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Advertisements.

COMB HONEY WANTED.—Apiarists, send lowest figures, delivered here, C.O.D., for 1 and 2 lb. sections, 1st and 2nd quality.
HOWELL & CLEMENT,
27A1t 85 Dauphin St., NEW ORLEANS, LA.
Mention the American Bee Journal.

ITALIAN QUEENS by Return Mail.—Tested, $1.00; Untested, 75 cents. **Bees** 75 cents per pound. **Albino** Queens same price.
GEO. STUCKMAN,
27A1t NAPPANEE, IND.
Mention the American Bee Journal.

ALBINO QUEENS.—To those desiring to secure Albino Queens, reared by natural swarming—I will sell them during July, warranted purely mated, $1 each, or 6 for $5.
JOS. MOSER, Festina, Winneshiek Co., Iowa.
27A1t
Mention the American Bee Journal.

FOR SALE—600 Colonies in the movable-comb hives, at $4.00 for Italians, and $4.00 for Hybrids.
25A13t **G. H. ADAMS,** Troy, N. Y.
Mention the American Bee Journal.

ITALIAN QUEENS—Untested, 75c. each; 6 for $4.00; 12 for $7.50. Address,
26Atf John Nebel & Son, High Hill, Mo.
Mention the American Bee Journal.

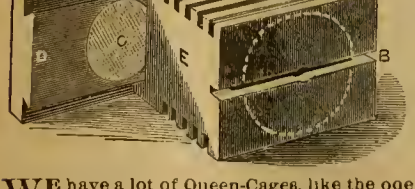
SOUTHERN HONEY WANTED!

WE are likely to have good use for a lot of **Southern Honey** in the near future, and invite shipments **now**. Address,
CHAS. F. MUTH & SON,
26A3t Freeman & Cent. Ave., Cincinnati, O.
Mention the American Bee Journal.

HEDDON HIVES FOR SALE.

I **HAVE** a hundred, all complete—just finished. Purchaser given right to use them, by Mr. Heddon. Will sell at $3.00 each, in lots of 10 or more. Inquire of,
27Atf **E. D. KEENEY, Arcade, N. Y.**
Mention the American Bee Journal.

Queen Shipping-Cages.



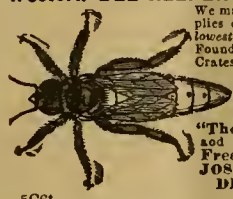
WE have a lot of Queen-Cages, like the one illustrated, not provisioned, which we will sell **3 for a dime**, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

HEAD-QUARTERS IN THE SOUTH.

FACTORY OF
BEE HIVES, &C.
Early Nuclei & Italian Queens.
☞ Tenth annual Catalogue now ready.
5Ctf **PAUL L. VIALLON,** Bayou Goula, La.
Mention the American Bee Journal.

My 20th Annual Price-List of Italian, Cyprian and Holy-land Bees, Queens and Nuclei Colonies (a specialty); also Supplies will be sent to all who send their names and addresses.
H. H. BROWN,
18C3t LIGHT STREET, Columbia Co., PA.
Mention the American Bee Journal.

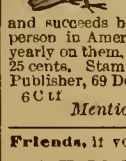
Western BEE-KEEPERS' Supply Factory.



We manufacture Bee-Keepers' supplies of all kinds, *best quality at lowest prices.* Hives, Sections, Foundation, Extractors, Smokers, Crates, Veils, Feeders, Clover Seeds, Buckwheat, etc. Imported Italian Queens, Queens and Bees. Sample Copy of our Bee Journal, **"The Western Bee-Keeper,"** and **latest Catalogue** mailed **Free** to Bee-Keepers. Address
JOSEPH NYSEWANDER,
DES MOINES, IOWA.
5C6t
Mention the American Bee Journal.

Barnes' Foot-Power Machinery.

Read what J. I. PARENT, of CHARLTON, N.Y., says—"We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of beehives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free. Address, W. F. & JOHN BARNES,
45Ctf No. 484 Ruby St., Rockford, Ill.
Mention the American Bee Journal.



JUST PUBLISHED,
"PRACTICAL TURKEY RAISING"
By Fanny Field. This book tells all about turkey raising, from the setting of the eggs to the maturity of the young turks. If you follow the directions in this book you need not lose a bird. Fanny Field has had more experience and succeeds better in raising turkeys than any other person in America. She clears hundreds of dollars yearly on them, and will tell you how she does it. Price, 25 cents. Stamps taken. Address R. B. MITCHELL, Publisher, 69 Dearborn St., Chicago, Ill.
6C tf
Mention the American Bee Journal.

Friends, if you are in any way interested in
BEES OR HONEY
We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture**, with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to
A. I. ROOT, Medina, Ohio.
Mention the American Bee Journal.

SUPPLY DEALERS

AND **OTHERS** should write to me for SPECIAL PRICES on **BEE-SUPPLIES** for this fall and winter.
☞ **A heavy Discount allowed.**
Address, A. F. STAUFFER,
44Dtf STERLING, ILLINOIS.
Mention the American Bee Journal.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.
Mention the American Bee Journal.

GLASS PAILS
FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.
Prices are as follows:

To hold 1 pound of honey, per dozen,				$1.60
"	2 pounds	"	"	2.00
"	3 "	"	"	2.50

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.
Mention the American Bee Journal.

WE will SELL CARNIOLAN QUEENS, reared in June, July and August, 1888, until further notice. Untested queens $1 00; tested, $2.00; tested and selected, $3 00
ANDREWS & LOCKHART,
24Atf PATTEN'S MILLS, Wash. Co., N. Y.
Mention the American Bee Journal.

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **Price, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

Mention the American Bee Journal.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS

Wood's Italian Queens

ARE now ready to ship. Every one is warranted, and all that are not equal to any in the country are replaced by Extra Tested Ones of 1888 rearing; **98 per cent.** of all Queens sold last season proved purely mated, and, as far as I know, every customer is satisfied. **Warranted Queens,** 75 cents each; 6 for $4.25; 12 for $8 00. Address,
JAMES F. WOOD,
26Atf NORTH PRESCOTT, MASS.
Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. July 11, 1888. No. 28.

EDITORIAL BUZZINGS.

Such boasting and taunting,
Just hear, oh, ye heavens—
But "Barkis is willin',"
Quoth W. M. Evans!!

We had a pleasant call last Saturday from Mr. A. I. Root's son-in-law, who is also manager of the establishment at Medina, Ohio.

Sugar Made from Honey.—On page 371 we made some remarks about Mr. Henry Alley's proposal to raise $5,000 "from the bee-keepers throughout the United States, and paid to the person who will devise some method for converting honey into sugar, similar to granulated sugar." We remarked that we had some sugar made from honey in our Museum, which had been there for a dozen years, and said that it would not pay to make it.

By request we sent some of the sugar to Mr. Alley, and he does not seem to appreciate it. Of course we are sorry to differ from our friend, but the facts remain all the same. It is not a question of priority, particularly; but if a good article of sugar can be obtained from honey, which will compete with cane sugar, we shall be happy to see it.

The Third Annual Report of the General Manager of the National Bee-Keepers' Union is now published, and has been mailed to all the members with Voting Blanks for officers for the coming year. We hope that a general response will result in renewed subscriptions for the coming year. As the fees are now reduced to a dollar a year, thousands should flock to its standard at once.

An Apiarian Exhibit is to be made under Governmental supervision at the Cincinnati Centennial Exposition next month. The following list of articles, showing the history and development of the industry, have been sent from the Museum of the AMERICAN BEE JOURNAL. After the close of the Exposition they will be forwarded to the National Museum at Washington for permanent display:

Murphy's Honey Extractor.
Hill's Gas-Pipe Honey Extractor.
Walton's Reversible Honey Extractor (Model).
Hill's Gas-Pipe Wax-Extractor.
Armstrong's Bee-Hive.
Anthony Malone's Bee-Hive.
Shuck's Model of a Bee-Hive.
Diehl's Leaf Bee-Hive.
Snell's Bee-Hive.
Finn's Bee-Hive.
Robert's Bee-Hive.
Russell's Bee-Hive.
Hoke's Straw Bee-Hive.
C. C. Dailey's Bee-Feeder.
Mrs. Dunham's Division-Board Feeder.
Prof. Cook's Division-Board Feeder.
Heddon's Bee-Feeder.
Scovell's Bee-Feeder.
Henry Alley's Atmospheric Bee-Feeder.
Smith's Queen-Nursery.
Van Deusen's Hive Clamps.
Ackerman's Hive Clamps.
Wood Separators.
Comb Honey Carton.
Shirley's Foundation Fastener.
Adjustable Hive Stand and Swarm Catcher.
Frame Holder and Metal Rabbets.
Sutcliff's Bee-Smoker.
Bingham's Bee-Smoker.
Bingham & Hetherington's Honey Knife.
Crate for Honey Sections.
W. T. F. Petty's Queen-Cage.
Harris' Queen-Cage.
Perforated Zinc Queen Excluder.
Woodward's Section of Comb, Partly Built.
Dr. Tinker's Hard-wood Sand-papered Sections.
Comb Foundation from Pelham's Mill.

Water and Salt for Bees.—Under this heading Mr. Wm. Urie writes thus for the *Farm, Stock and Home*:

Every apiary, however large or small, should have a convenient watering place for the bees. A shallow trough large enough to hold say a pailful of water, without its being over 2 inches deep, provided with some small floats for the bees to alight on to drink, is a convenient form. Bees drink and use much water, and they are often compelled to go long distances for it and be subjected to great inconvenience to get it, at that.

Foraging for water consumes much valuable time which would be employed in profitable work if water was kept at hand.

Bees need salting, also; it is as necessary to them as to cattle. About once a week put a handful of salt in the pailful of water contained in their trough, and notice with what avidity the bees will go for it.

Do not give too much salt, but the proportion noted will be found both gratifying and beneficial.

The Thirteenth annual meeting of the American Association of Nurserymen was held at Detroit, Mich. This industry does much to beautify the country and ennoble the people. Without fruits and flowers this would be a dreary land. The past season this society has secured reduction in freights by different classification, which is worth more to nurserymen and the people than the society ever will cost. No nurseryman can afford to exclude himself from such an association. Send $2.00 for a membership fee to Chas. A. Green, Secretary, Rochester, N. Y. Then you will get the official report free of cost. The next meeting will be held in Chicago.

Basswood is in bloom now in quite a number of localities, and the yield bids fair to be plentiful. The weather is warm and moist, and everything augurs well for the secretion of nectar, and we hope to be able to report a bountiful harvest. A few trees are in bloom near the office of the BEE JOURNAL, and the bees are happy. Mr. Root, in *Gleanings* for July 1, makes these remarks on basswood in his locality:

This 30th day of June, bees discovered a little cluster of blossoms on one of the basswood trees that skirt the road in front of our dwelling. Only a dozen or two buds were opened, but the bees were having quite a rejoicing over them. The trees are loaded with buds. What shall the harvest be?

Chas. F. Muth & Son, of Cincinnati, have issued a set of 5 illuminated cards on "Bees and Fruit." The pictures are fine, and well colored and finished. On the reverse may be found three paragraphs from our Leaflet No. 1, entitled, "Why Eat Honey?" After these comes the following announcement:

"We have always made it a point, ever since we existed, to supply honey in its best forms, and never soiled our fingers by adulteration."

That announcement is something to feel *proud* over being able to truthfully make. It is worth more to a TRUE MAN than all the gold of California, or the diamonds of Africa. That it is truthfully made by our friends, "Muth & Son," no one who knows them would deny. It is almost proverbial that Mr. C. F. Muth is the personification of truth and honor, and bee-keepers are to be congratulated in having such a man among their number. We beg his pardon for this notice—but it was called out by those attractive cards, placed on our desk by the mail-carrier just as these forms were ready for the press.

Every Bee-Keeper who realizes the importance of the work now being done in the interest of the pursuit should send a dollar to this office and become a member of the National Bee-Keepers' Union for the ensuing year. "In Union there is strength." Reader, can you afford to remain outside any longer?

Dividing Swarms.—On this subject Mr. G. K. Hubbard remarks as follows in *Indiana Farmer* for last week:

When two swarms go together they may be separated by setting two hives on opposite edges of a sheet and shaking the bees between them and brushing them with a feather to see that an equal number of bees go into each hive. A sharp lookout should be kept for the queens, and one put in each hive. Sprinkling the bees with water retards their movements, so that you are much more apt to find the queens. When the swarms that cluster together are put into one hive they should be given plenty of room in the surplus boxes, and a little brood put into the brood-chamber to insure that no brood is put above.

GLEANS OF NEWS.

Hot Summer.—It is now quite generally predicted that the rest of the summer is to be *hot* all over the country. The *Indiana Pharmacist* predicts it upon the following theory, which has been advanced by others:

The weather seems to run in cycles of about seven years, that is, when we have a hot summer, it is always followed by a cold one, and it takes about seven years to reach another equally hot. It will be remembered by many that the summer of 1867 was very hot, and so dry that during August the grass crumbled under the feet when trod upon. The summer of 1868 was noted for its coolness, the thermometer very seldom getting above 85°, and we did not reach the top wave of thermality again until 1874, when it was extremely hot. The following summer was cold to a remarkable degree. From then on the summers grew gradually warmer until 1881, which was excessively hot and very dry, no rain falling for over nine weeks, and there were more sunstrokes that summer than there has been in all the summers since.

The summer of 1882 was quite cold, a few flakes of snow fell on the morning of July 4, followed by hail in the afternoon, and during the rest of the month and through the month of August the temperature was so low that overcoats were necessary for comfort, particularly at night. The summers since 1882 have grown warmer and warmer, and last summer was a moderately hot one, but unless all signs fail, the coming summer will be the climax of the cycle, and a hot, dry season may be expected. So far this spring the signs have been against the theory here advanced, but possibly the coolness of the spring may be succeeded by a regular old scorching summer whose temperature will rival sheol for hotness.

Small Sections for Comb Honey etc.—G. B. Olney, Atlanta, Iowa, on June 21, 1888, writes:

The 5-cent packages described on page 292, appears to be too cumbersome, and it takes too long to get them into shape. I take a board the thickness that I want, and the length of the inside of the frame; set the saw to cut half through, when I cut half the width of the saw on each end, doing the same with a board for perpendicular pieces. I set the jack-plane bit to cut 1-32 of an inch, and plane off all I will need in a very short time. I dampen and strighten them out, put foundation starters on the long pieces before I fasten the parts together, and after they are formed I have an ornament and useful article.

A Mr. J. E. Stoner sent me a sample of Alsike clover hay, with a note, stating that his stock of all kinds eat it well. They leave no stems as they do with red clover and timothy, and his bees are working on it splendidly. He has 12 acres of Alsike, and wants more of it.

I went to a fellow not long since, presented a long-standing-bill and met with this answer:

"Come and git your hives, bee's and all. I don't like them ere kind of hives, know how. I'm goin' to make a new kine, some with draw's in, an' som glass in, so I k'n see what 'um doin'." I thought to myself, what a good subject you are for Lizzie Cotton.

The white clover is yielding some honey when it stops raining long enough to let it stand up. The corn fields are getting very weedy, owing to so much wet weather that farmers cannot work it. It has been very discouraging thus far this spring, being dry early, and the squirrels took the corn as fast as it came up. Some farmers replanted the fourth time, but by using poison and shot-guns freely, and all the boys with snare-drums that could be found, we managed to have some corn growing. What would some men think of this extra work it perchance it would be done for the honey-bee?

Yes, indeed. While every kind of business has its drawbacks, that of keeping bees is no more liable to them than any other; neither is it an exception to the rule.

Nearly every novice, as soon as he enters the business, assumes to "know it all," and wants to get up a new hive. He knows more in one day than all before him in the business have been able to learn in a century. It is a *disease* which attacks nearly all who embark in the business.

INTERROGATORIES.

Cans for Extracted Honey.—A correspondent in Ulster County, N. Y., on July 5, 1888, asks the following questions:

1. Are not fruit-cans as good as anything to put up extracted honey for the market? When the honey is put in those cans should they be exposed to the light? 2. I have read that the best plan of taking care of extracted honey is to put it directly into fruit-cans and seal up when almost at boiling point. Does not heating honey spoil its flavor? Are the covers for said cans air tight?

1. Yes; but there are many kinds; they are made of glass, tin, etc., and exposure to the light is not detrimental to the honey.

2. Heating the honey does no harm, unless it is brought to a boil. The covers to all the self-sealing cans make the package air-tight; others are not air-tight.

Sterile Queens.—C. A. Pardee, Colesburgh, Ky., on July 2, 1888, writes as follows:

I send a queen which is a puzzle to me and my bee-keeping friends of this vicinity. She was reared under the swarming impulse from a good cell, and the last one of the batch to be capped. I was carefut in handling this cell, leaving it in original comb, and never inverting, bruising, or jarring it. The cell was capped on May 17. I deemed further inspection of the colony unnecessary until June 23, when its weak condition warned me that something was wrong. Upon opening the hive, I found no brood, but the worker cells were filled with eggs, and the queen was attending to business. On June 30, I again opened the hive, and found that none of the eggs had hatched. Upon close inspection, I could see a tiny drop of larva food in the bottom of each cell, but instead of the larva, the egg still remained projecting from the cell-bottom. I found no eggs in the drone-cells.

I removed the queen immediately, and as there is no microscopist of sufficient experience in this vicinity, I send her to you, Mr. Editor, trusting that you will forward her to some skilled entomologist who will for the cause of science ascertain what is the matter with her. That she lays sterile eggs in worker-cells can be verified by introducing her into a nucleus. I would suggest that you make the report of the entomologist public in the BEE JOURNAL, as the solution of this puzzle would surely be interesting, not only to myself, but to a large majority of its readers.

We sent the queen to Prof. A. J. Cook, with the above letter, and here is his reply:

Mr. C. A. Pardee, of Colesburgh, Ky., sends me, through the editor of the AMERICAN BEE JOURNAL, a queen, that though she lays eggs in great numbers, produces no bees. Mr. P. says as there is no microscopist at his place, he sends the queen for a full report. This is a case where a microscopist would do no good.

In last week's *Rural New Yorker* a subscriber writes: "My mare has produced one or two colts, but now seems sterile. What is the trouble?" The veterinarian editor replies that in many such cases it is impossible to explain the sterility. In the higher animals we speak of sterility, though with them, as with the queen, I presume, eggs are still produced, but are impotent, sterile or worthless.

The real trouble with the egg we do not know; we may never know. It is a very difficult subject to investigate. With this queen—and such queens are not so rare but that I have seen many of them—as with occasional examples of all higher animals, though eggs were ripened and passed from the reproductive organs, yet they were sterile. We can only say that the queen's are diseased, and so only can produce worthless eggs. What the disease is, or why the egg is sterile we cannot say. Some such queens which have come under my observation, have been very prolific of eggs; yet, not an egg would hatch.

So far as I have observed, such queens never recover from this inability. Breeders of cattle frequently have cows that ovulate regularly, yet never breed. Occasionally such a cow after being sterile for months, or even years, will become again a regular breeder. It would seem that in such cases, we have a disability, which, though very likely akin to that of the queen in question, yet is only temporary. This might lead us to expect that possibly a queen of this kind might in time become a breeder. However, it would not pay to keep one with such a hope in view, except as a matter of scientific interest. Even with our higher stock it is a questionable policy to breed from animals which have been for a time sterile. We should fear that the same disability might come in the offspring.—A. J. COOK.

Omission.—In the essay of Mr. T. S. Sanford, on Farm Apiaries, read before the Farmers' Institute, and published on pages 425 and 426, two lines were omitted through an oversight of the printer. The whole sentence should read thus:

After being thus prepared they should not be disturbed until settled warm weather has come in the spring to stay; when they should again be examined, and if any are found to be without a queen, they should be united with some weak colony having a queen, or another queen procured for them at once.

BIOGRAPHICAL.

DR. A. B. MASON.

This biographical sketch was written for *Gleanings* by Mrs. Mason:

The subject of this sketch was born 25 miles southeast of Buffalo, in the town of Wales, Erie Co., N. Y., Nov. 18, 1833. His father was born in Massachusetts, and was of English, Scotch, and Irish descent; was a soldier in the war of 1812, and assisted in the capture of Fort Erie. His maternal grandfather was killed by the Indian allies of Great Britain, in the same war. His maternal grandmother was of the old Knickerbocker, or Dutch ancestry.

Mr. Mason had six brothers older than himself, two younger, and two sisters. All were raised on a farm, and the brothers are all farmers. The only living sister is the wife of a farmer, and lives at Emporia, Kansas. His mother and grandparents all died in their 83d year, and his father was about 90 at his death.

In DeKalb Co., Ill., when about 17 years old, Dr. Mason taught his first school, for $14 per month, and "boarded round." In relating some of the incidents in connection with that school, he says: "The three last teachers preceding me were turned out by the 'big boys,' the last being thrown through the window with the window shut. Of this I knew nothing until the morning I went to begin school. I made up my mind to teach that school or somebody would get hurt, and so I told the director. I was hired for three months, but taught four, and was offered $40 per month to teach the same school the next winter. A majority of the scholars were older than I was."

At the close of this school, young Mason went to Beloit College, Wisconsin, and attended two terms, his chum and friend being the now well-known Gen. Warner, of Warner "Silver Bill" notoriety. With the exception of the above, and a few terms attendance at an academy in Wyoming, N. Y., when he was either at or near the head in all his classes except grammar, his school education was obtained in the common district school.

In his 19th year Mr. Mason joined the Baptist church of his native town, and has ever since been proud to be known as a Christian. Just previous to his 22d birthday, at the earnest solicitation of his parents, he commenced the study of medicine with the family physician, working, as opportunity offered, to earn money to help pay expenses.

During the winter of 1857 Dr. Mason attended medical lectures at the University of Michigan, at Ann Arbor. At the close of the lecture course, he went to Illinois to spend the summer, and to complete his medical studies. The following autumn he returned to the old home in New York, and on his 25th birthday was married to a Miss Clark. In the spring of 1859, in company with several families from New York and Illinois, the newly married couple went west and located at Irvington, Kossuth Co., Iowa, 40 miles west of the present home of Mr. Eugene Secor. The colony with which they went having broken up, in 1862 they moved to Waterloo, Iowa. Here Mr. Mason commenced the practice of denistry, which he has followed to the present time. He was Secretary and Treasurer of the Iowa State Dental Society, and President of the Northern Iowa Dental Association for two years. For four terms he was Secretary and a member of the School Board of the city in which he lived, and was one of the originators of the city library, and librarian for several years.

For years Dr. Mason was an active, if not the most active member of the church to which he belonged, being at one time superintendent of the Sabbath-school, church clerk, a trustee, and clerk of the board of trustees. He was a leader in Sabbath-school work at home and in adjoining counties. One year he was secretary of eight different organizations, four of them religious.

Dr. Mason has always been known as an earnest temperance worker, and has had his life threatened twice by saloon-keepers. He still delights in being a thorn to them.

His youngest child is a daughter 16 years old, and the oldest is 27. His children, like himself, use no tea, coffee, tobacco, or liquor in any form.

In 1869, a brother, in moving, left 2 colonies of bees with him till a more favorable time for moving them. He soon became interested in them, and, seeing an article in a newspaper that year about Mrs. Tupper's success with bees, wrote to her, making some inquiries, which were kindly answered. He at once became a subscriber to the AMERICAN BEE JOURNAL, which he has taken till the present time.

Dr. A. B. Mason, President of the North American Bee-Keepers' Society.

The same year, Mr. Mason became a member of the Central Iowa Bee-Keepers' Association, and the next year was elected secretary, which position he held until he left the State.

In 1873, owing to frequent attacks of rheumatism, and an increasing desire to mak bee-keeping more of a specialty, Dr. Mason quit the office practice of denistry, and the proceeds of the apiary have materially aided in furnishing "bread and butter" for wife and children.

In 1874, the family residence, a large new house, with all its contents, was consumed by fire. There were 18 first-class Italian colonies of bees in the cellar. On learning of the loss, some members of the Central Iowa Bee-Keepers' Association offered to

make him a present of 14 colonies as a starter.

The same year we moved to Ohio, which has since been our home. In the summer of 1875 we lived in a suburb of Cincinnati, and made and sold the Murphy honey-extractor, most of them going to southern States.

In 1876, Dr. M. was chosen secretary of the Buckeye Union Poultry Association, and held the position for four years.

In the winter of 1879 he tried what has since been the known as the "Pollen Theory," and, with the experience of that and succeeding winters, he has been made a firm believer in that theory. This was several years before anything was said about it in the bee-periodicals.

In 1881 Mr. Mason succeeded in getting the Tri-State-Fair Association at Toledo to offer Fair premiums for the display of the products of the apiary, and the display has increased in attractiveness each year; and last fall it was said the display was the most attractive of any on the grounds. He was appointed superintendent of the department the first year, and still holds the position.

During the year 1882 and 1883, when but little was generally known about foul brood, his apiary of 75 colnies was badly infected, nearly every colony having it in 1883, and he has frequently stated the loss was from $300 to $500; but he cured it that year, and has had none since.

For several years he has been a member of the Michigan State Bee-Keepers' Association, and in 1886 was made an honorary member.

At Chicago, in November, 1887, on his 54th birthday, Mr. M. was chosen president of the North American Bee-Keepers' Society.

Early in October last, he made what he called a "new departure" in bee-keeping. Having become satisfied, in theory, that it was of no special benefit for bees to be flying after frosts had destroyed all honey-producing blossoms, he concluded to prepare a few colonies for wintering, and place them in the cellar as soon as there came a killing frost. On the night af Oct. 15 there was a hard frost. On the night of the 19th he placed the prepared colonies in the cellar. On April 27, 1888, the bees were taken from the cellar, after undergoing a confinement of six months and eight days, and were in good condition, having lost in weight 7¾ pounds on an average.

The other colonies, put in the cellar in November, were weighed at the same time (Oct. 19), and, when taken out with those put in Oct. 19, were found to have lost in weight, on an average, over 11 pounds.

During the past winter he has delivered two addresses at farmers' institutes, and one at a horticultural meeting, the subject being "The Benefits of Bee-Keeping to the Agriculturist and Horticulturist."

Mr. Mason has been chosen to superintend the Apiarian Department of the Ohio Centennial Exposition, to be held at Columbus from next Sept. 4 until Oct. 19.

He is now serving his third term as assessor of the precinct in which we live, having been re-elected by an increased majority.

MRS. A. B. MASON.

Auburndale, Ohio.

QUERIES AND REPLIES.

Distinguishing Purely Mated Italian Queens.

Written for the American Bee Journal

Query 558.—How can a purely-mated Italian queen be distinguished from one mated with a Cyprian or Holy Land drone, or with a drone that is a mixture of Italian and one of these races?—Calif.

By her progeny—H. D. CUTTING.

I do not know.—P. L. VIALLON.

By her progeny.—A. B. MASON.

I do not know.—J. M. SHUCK.

By her progeny.—MRS. L. HARRISON.

I doubt if she can.—EUGENE SECOR.

Only by her progeny.—J. P. H. BROWN.

You've got me.—JAMES HEDDON.

Only by the markings or disposition of her progeny.—C. H. DIBBERN.

I have had no experience with Cyprian or Holy Land bees.—J. M. HAMBAUGH.

By the appearance of her progeny, and in that way only occasionally.—R. L. TAYLOR.

I doubt if it can in all cases. I doubt if it can be certainly in any case.—A. J. COOK.

In no way that I know of. This is one of the worst features about getting the Cyprians and Syrians into this country. I think we would have been much better off had we never seen either.—G. M. DOOLITTLE.

She cannot with certainty. Her progeny will be so nearly like pnre Italians that I do not believe any one can distinguish them with certainty in all cases.—M. MAHIN.

The workers of such a cross-bred queen will many of them resemble the Cyprian or Holy Land workers, as the case may be, and others will resemble Italian workers. The close observer can readily tell the workers of such a cross by observing the pure races by themselves.—G. L. TINKER.

There is no way by which the mating of a queen can be determined except by her worker progeny. It is only by strict attention to the matter that this can be done. Three yellow bands is the color test, and is the only test that I know of; and it will not apply to the crosses between the yellow varieties. All dependence must be placed upon the honesty of the breeder.—J. E. POND.

No one but an expert in such matters can make the distinction, and even then it is not certain that no mistake will be made. Pure Cyprians are *marked* by the solid yellow on the underside of the abdomen, which marking is not materially changed by crossing with the other yellow varieties. The other yellow races (Italians and Syrians) are marked with dark veins dividing the yellow with the segments of the body. One well acquainted with the peculiar motions and actions of bees of different races may detect a mixture of blood, but there is room for mistake all around.—G. W. DEMAREE.

No method has yet been discovered by which to determine the purity of the mating of queens, except by the markings and temper of their worker progeny. As the bees mentioned are so nearly like the Italian, we think that it would be exceedingly difficult to determine the matter even with the worker progeny of such queens—that is, to determine with any degree of *certainty*.—THE EDITOR.

Double-Walled Bee-Hives and Supers.

Written for the American Bee Journal

Query 559.—1. When wintering bees on the summer stands, which is the best, a double-walled hive with chaff between the outer and inner walls, or double-walls with a vacant space between the walls? 2. Which is best for winter, double-walled hives, with walls one inch thick and 2 inches of space between the walls, or single-walled hives with a wall 4-inches thick? 3. In working for comb honey should the surplus story be double-walled? If so, will more honey be obtained thereby?—Mich.

1. Probably with chaff. 2. Probably the double-wall. 3. No.—C.C. MILLER.

1. We prefer hollow double-walls. 2. It makes little difference. 3. No.—DADANT & SON.

1. I do not know. 2. Double-walled hive. 3. No.—R. L. TAYLOR.

1. A vacant space. 2. A 2-inch space between the walls. 3. No, no.—MRS. L. HARRISON.

1. I would use the chaff between. 2. I cannot say. 3. No.—J. M. HAMBAUGH.

I have had no experience with chaff hives, as they are useless for the South. —P. L. VIALLON.

1. Double-wall with chaff. 2. Double-wall. 3. No, but a shade-board will pay.—A. B. MASON.

1. If the space were perfectly air-tight it would be as good as the chaff —otherwise not. 2. The former. 3. No.—EUGENE SECOR.

1. I prefer fine or cut straw to either. 2. I prefer the double-walled hive, every time. 3. The single story is just as good.—G. M. DOOLITTLE.

1. Use the chaff to make sure of dead-air spaces. 2. No practical difference; these things do not cure or create bee-diarrhea. 3. No, no.—JAMES HEDDON.

1. The chaff makes it warmer, or more independent of outside temperature. 2. I do not understand. The character of the wall must be explained. 3. No.—A. J. COOK.

1. I do not think any difference will be found. 2. The first mentioned will, I think, be the better. 3. I prefer a single-wall for the purpose.—J. E. POND.

1. I use, for wintering on the summer stands, a single-walled hive with 4 inches of packing outside. 3. I do not know. I shall try with and without this season.—H. D. CUTTING.

1. I should prefer chaff to a dead-air space. 2. The double-walled hives, but I would neither use those nor a hive with 4-inch solid walls. 3. No; it is no advantage whatever.—C. H. DIBBERN.

1. I have never used chaff in that way. I have some double-walled hives with an inch of dead-air space between ¼-inch walls, and the bees always winter well in them. 2. The former. 3. I prefer a double-walled surplus story. —M. MAHIN.

1. I am well satisfied that the hives packed with chaff are the safest in out-door wintering. 2. I should prefer the double-walled hive. 3. No, but further North, where the nights are very cool, some extra protection would appear to be necessary.—G. L. TINKER.

1. Double walls packed with chaff have proved best with me. Outside walls ⅞ inch thick; inside walls ⅛ inch thick, and 3 inches of chaff. Chaff over the frames 6 inches thick. 2. Double walls are better in winter for out-doors than single-walls. 3. Double-walled supers are no advantage. I have used them.—J. M. SHUCK.

1. Chaff between is the best. 2. I would say that neither is practicable, and I could not make a choice between them. 3. No, not according to my ideas of a practical working hive. It pays best to use a light, properly arranged hive for storing honey, and for rapid manipulation. Then use an outer-case around it where packing is necessary for winter protection. Very few "combined" implements are a perfect success. The honey season is the all-important thing in bee-keeping. —G. W. DEMAREE.

1. For wintering bees, hives with double walls, having the space between them perfectly air-tight are on some accounts preferable to those having the space between the walls filled with chaff. 2. The former is, perhaps, preferable, but the difference is very slight. 3. No.—THE EDITOR.

CORRESPONDENCE.

A REVIEW.

Also a Reply to Various Writers on Current Topics.

Written for the American Bee Journal

BY G. W. DEMAREE.

I have been so busy of late looking after a multiplicity of business on my hands, that I have been compelled to pass by many things that otherwise I would like to notice.

Mr. Doolittle is still doing battle for his "swarming impulse" queens, and perhaps he imagines that he has silenced all opposition. Strange that Mr. D. has failed to see that he has not pretended to meet the real matter at issue. The question has nothing to do with the "dollar queen," and other loose and unscientific methods to force queens ready for the market. The real question is an important one, and should be treated with all fairness.

Can the art and skill of the apiarist be so applied as to improve the races of bees? This is the only phase of the question that I care to discuss. Man has succeeded in improving all the domesticated animals, and my experiments go to show that the honey-bee is not an exception.

Mr. Doolittle seems to be tender on this subject, and I am not surprised to see that a true, conscientious man like himself should instinctively feel "tender" when it comes to queens reared by "nater." For there has been as much humbug to the square inch connected with the "swarming impulse" queen business, as can be found anywhere, the shrewd hybrid business not excepted.

I have no hesitation in saying that as many persons have been disappointed, who have purchased advertised "swarming impulse reared queens," in proportion to the number sold, as have been disappointed by purchasing queens reared by the cheaper methods. But all such argument as this, and the condemnation of Mr. Doolittle of the shoddy methods, does not touch the real question.

That bees and queens can be improved in beauty of markings, size, etc., I have proved beyond question. I wish that I was able to speak as confidently of the improvement of the working qualities of my bees. Perhaps this desirable part will be found to baffle the skill of the most careful breeders.

After breeding up a strain of Italian bees that I believed was superior as honey-gatherers, I put into my apiary an imported Italian queen, and with daughters reared from her I re-queened about 20 colonies of my bees, having in view the introduction of fresh blood on the male side of the race, and to my surprise these colonies, headed by daughters of the imported mother, were in no way inferior to my carefully bred bees when it came to solid, hard work. The same thing has occurred twice in my apiary in the past ten years. I therefore conclude that *race* has more to do with industry and the other qualities which go to make up good working bees, than all else besides.

It has been quite common for queen-breeders to talk and write with all confidence about rearing queens for "business, etc." I really wish that there was more of the substantial about it, for the reason that any apiarist may dispel his delusion by trying the experiment that I have mentioned above. The main point in breeding bees is to keep the race or strain *pure* and keep up the introduction of fresh blood to give health, vigor and energy.

Bee-Culture Not a Fixed Science.

My friend and co-laborer in the apicultural vineyard in Kentucky, Mr. James M. Tyler, proposes to be unmercifully hard on Dr. Allen and myself, and perhaps all the old veterans in bee-culture. He demands of us that we *stand* to what we have written on bee-culture in the years that have gone by. Speaking for myself, I cannot afford to do this, though much of what I did write was fully up with the times.

Bee-culture is not a "fixed science." It is progressive, and hence the writer on bee-culture, if disenthralled from fogyism, must always be moving. Still I do not demur to the bee "literature under your arms." Come on with it, and I am sure that you will not find me the stinging hybrid that you represent me to be.

I do not admit that Kentucky is behind the times. All States and peoples have their specialites, and no State excels in all departments of business.

Do Bees Select beforehand their Home?

Mr. J. E. Hand thinks that I am a little "off" on this subject. I admit it. It is no unusual thing for an error to become so deeply rooted that it requires a bold man indeed to undertake to root it up. The old superstitious notion that bees "send out scouts" to locate the new commonwealth, has too much genuine romance about it to be given up without a struggle. Bees are sometimes seen passing in and out of hollow trees, and the conclusion is jumped at that the bees are "cleaning out" a new home! No one, it seems, has stopped to think that chemical changes that sometimes takes place in the rapid decay of wood is sufficient to account for this.

We are told that a swarm of bees have been seen to strike a "bee-line" for some hollow tree. Yes, but about ten times more frequently they do not go directly to some hollow tree, but wander from place to place, sometimes roosting out over night till they instinctively find a hole to crawl into. But the unerring habits of bees forbid any such thing. Bees never *do anything in advance* of their *present* wants. This fact alone ought to settle the question.

Loss of Young Queens.

Mr. Millard, in his article on page 423, explains the cause of the loss of so many young queens at the time of their mating, and I need only to say that the "cause" is not "unaccountable" to me; that is, the presence of too many indifferent, cranky old bees, but the unaccountable part is, why old bees should not only become indifferent to the future prospects of the colony, but full of jealousy and hate toward the only source of relief—the young queen. I am glad to see that light is breaking on this subject. No author of our standard works, so far as I have seen, has ever touched upon this subject.

Christiansburg, Ky.

CANADA.

Report of the Brant Bee-Keepers' Association.

Written for the American Bee Journal

BY R. F. HOLTERMANN.

A meeting of the above association was called to order by President Anguish, at the Court House in Brantford, Ont., on Saturday, May 5, at 2 p.m. The prize list for the county show to be held at Brantford, on Sept. 12 to 15, was adopted, being as follows:

1. Display of comb honey in most marketable shape, product of exhibitor, and not less than 300 pounds, quality to govern, 1st prize, $5 00; 2d prize, $3 00; given by the Brant Bee-Keepers' Association.
2. Display of extracted honey, 1st, $5.00; 2d, $3 00; given by the assoc ation.
3. Display of comb and extracted honey (exhibitors who have entered in Sec. 1 and 2 excluded), not less than 200 pounds of each, quality to govern, 1st, $4.00; 2d, $2.50; given by the association.
4. Ten pounds of clover extracted honey in glass, 1st, bee-hive, given by E. L. Goold & Co.; 2d, $1.00, by T. Birkett.
5. Ten pounds of linden extracted honey in glass, 1st, bee-hive, by S. Dickie; 2d, *Canadian Honey-Producer* one year, E. L. Goold & Co.
6. Best 10 pounds of comb honey in sections, 1st, one colony of bees, by D. Anguish; 2d, $1 00, by J. R. Howell.
7. Best honey vinegar, 1st, one smoker, by R. F. Holtermann; 2d, 75 cents.
8. Best assortment of fruits put up in honey, 1st, swarm-catcher, by R. F. Holterman; 2d, 75 cents; 3d, 25 cents.
9. Best display of bee-keepers' supplies, the manufacture of the exhibitor, 1st, $5.00; 2d, $2.00.
10. Best hive for comb honey, 1st, diploma; 2d, 50 cents.
11. Best hive for extracted honey, 1st, diploma; 2d, 50 cents.
12. Best honey extractor, 1st, diploma; 2d, 50 cents.

O. McAlister and W. R. Brown, who were not yet members of the Ontario Association, were appointed representatives for the year, in accordance with the Ontario Bee-Keepers' Association by-laws.

S. A. Dickie asked how we should know of the proposed shipment of queens, one of which every member of the Ontario Association will receive. T. Birkett said that doubtless notice of shipment would probably be sent a few days previously.

Experiments in Burying Bees.

The report of the "buried bees" was next given. The President, D. Anguish, stated that his bees had been taken out alive. The combs were, however, damp and moldy. One colony was very strong, but the others were on the weak side. The unfavorable weather which followed had affected them, and they were all lost.

S. A. Dickie reported 2 colonies dead when taken out; the rest were in very fair condition, one in fact being first-class. They had since perished from the same cause as Mr. Anguish's. He intended to try again.

The Secretary stated that all his bees had come out about equally strong, but the combs were slightly moldy. None had perished since being taken out, In closing, he stated that they had been taken out dead. He would leave this experiment to be continued by the man who had wintered his bees that way successfully. T. Birkett reported that his bees had wintered well, but that several had since been robbed.

This question was asked: "What is the best time to Italianize bees?" Answer, "During the honey season."

THE UNION.

Report of the General Manager on the Third Year's Work.

It becomes the duty of your General Manager, at the end of the third year of the existence of the National Bee-Keepers' Union, to review the important events of the fiscal year just ended, and with special pride he makes the announcement that, so far, the Union has been successful in every case it has undertaken in defense of the pursuit of keeping bees. No decision has yet been obtained inimical to the pursuit of bee-keeping.

The officers were re-elected in July, 1887, by almost an unanimous vote, and during the year they have aided in every possible manner to make the Union triumphantly successful in every case it has undertaken.

Amended Constitution.

The proposed amendments to the Constitution were all carried unanimously, and went into effect on Jan. 1, 1888; as amended it reads thus:

ARTICLE I.—This organization shall be known as the "National Bee-Keepers' Union," and shall meet annually, or as often as necessity may require.

ARTICLE II.—Its object shall be to protect the interests of bee-keepers, and to defend their rights.

ARTICLE III.—The officers of this Union shall consist of a President, five Vice-Presidents, and a General Manager (who shall also be the Secretary and Treasurer), whose duties shall be those usually performed by such officers. They shall be elected by ballot, and hold their several offices for one year, or until their successors are elected; blank ballots for this purpose to be mailed to every member by the General Manager.

ARTICLE IV.—The officers shall constitute an Advisory Board, which shall determine what action shall be taken by this Union, upon the application of bee-keepers for defense, and cause such extra assessments to be made upon the members as may become necessary for their defense; *provided* that only one assessment shall be made in any one fiscal year, without a majority vote of all the members (upon blanks furnished for that purpose), together with a statement showing why another assessment is desirable.

ARTICLE V.—Any person may become a member by paying to the General Manager an Entrance Fee of ONE DOLLAR, for which he shall receive a printed receipt making him a member of this Union, entitled to all its rights and benefits. An annual fee of $1.00 shall be due on the first day of July in each year, and MUST be paid within 6 months in order to retain membership in this Union.

ARTICLE VI.—The Funds of this Union shall be used for no other purpose than to defend and protect its members in their rights, after such cases are approved by the Advisory Board; and to pay the legitimate expenses of this Union, such as printing, postage, clerk-hire, etc.

ARTICLE VII.—This Constitution may be amended by a majority vote of all the members at any time.

The membership of the Union has not increased as much as it was expected, but this may be accounted for in the fact that the drouth of last summer prevented the bees from gathering much honey, and therefore bee-keepers have felt too poor to add to their ordinary expenses. It is to be hoped that a good crop may be obtained this year from basswood and fall flowers, so that all may be able to contribute their *mite* to aid this important adjunct to the pursuit of apiculture.

In several cases your Manager has been consulted as to the best course to pursue when bee-keepers were threatened with lawsuit, by envious or jealous

neighbors. After giving due consideration to the detailed facts in each case, they have been advised as to the best course to pursue, and in many cases lawsuits have been averted by the conciliatory measures advised by the Union. In two cases, where the bees were *really an injury* to the neighbors by being too close to the line where sweaty horses were driven almost constantly, the bees have been removed by advice of your General Manager, and thus all trouble has been averted. In other cases compromises have been advised, and the wisdom of such has been seen in the amicable relations now existing, where trouble had been brewing.

California Raisin-Growers.

The decision reached in the Bohn case not only averted the trouble which at one time wore a serious aspect, but now a proposition has been made to buy the apiary and remove it—thus saving the apiarist from the loss which would have resulted from his being unceremoniously driven out of his honorably-acquired and just rights.

This, however, was quite unnecessary, for the bees not only did no damage, but vastly increased the crop. The California *Horticulturist*, last fall, admitted that the crop was greatly in excess of all expectations. So the bees are the fruit-growers' very best friends! They increase their crops, and enlarge their bank account balances. This is how the bees have rewarded the makers of the "late war" forced upon them by some ignorant and selfish raisin-growers.

It was proven at the trial that the bees could not bite into the skin of a grape. A San Diego bee-keeper, says the San Francisco *Chronicle*, settled the question in this way:

> He took a perfect bunch of grapes, every berry of which was sound and in good order, and suspended it in the middle of a hive of bees for an indefinite time. It remained there several weeks, and at the expiration of the period was removed in as perfect a condition as when first put in the hive. Thousands of bees had been crawling all over the fruit during that time, only too eager to attack the juice thereof, but had been unable to do so.

History repeats itself. Sometime ago, in a certain town in New England, so strong was the belief that bees injured the fruit, that an ordinance was passed obliging the bee-keepers to remove their bees to another locality. After a year or two, the fruit-growers decided to have the bees brought back, because so little fruit matured upon the trees.

Had the raisin-growers been successful in California, and had driven the bees away, it would only have been a short time before they would have been just as anxious for their return as they then were to drive them out of their borders! It was the work of ignorance and prejudice to demand the removal of the bees, but as soon as light and knowledge was allowed a place, better judgment prevailed.

The "Rich" Lawsuit.

As mentioned in our last report, Mr. S. W. Rich, of Hobart, N. Y., was sued by a jealous and disagreeable neighbor for $1,200 damages, and also to compel him to move his home-apiary outside the city limits. Bee-keepers from several States attended the trial, which was held last October before Judge Boardman, at the Delaware county court. About 40 witnesses were called.

The plaintiff asked for $1,200 damages for injuries inflicted by the bees upon his person and property, but the jury, from which every person having bees was excluded, gave him but *six cents* to cover wounded feelings and damaged property!!

This virtually declared that the bees were *not* a nuisance. The result is an overwhelming defeat for the enemies of the pursuit of bee-keeping, and another victory for the National Bee-Keepers' Union.

But as the award of even 6 cents as damages carried with it costs amounting to $468.04, the case has been appealed to the Superior Court, which will cost about $500 more. Judge Boardman ruled against the bees every time, and in charging the jury compared the bees to a pig-sty and a slaughter-house. This was the first case with one exception ever tried in the State, and the Judge having no law or precedent to go by, ruled just as *he* thought right, with the above result.

It will not do to let bee-keeping be likened to a pig-sty or a slaughter-pen! It is an honest and honorable pursuit and its rights must be preserved. This appeal will be heard this fall, the Union having engaged lawyers, and guaranteed the expenses of the new trial. Had the Judge been inclined to be as *fair* as the jury, this would have been unnecessary.

Bogus Comb Honey.

The Wiley *lie* about honey-comb being manufactured, filled with glucose and sealed over by machinery has received considerable attention from the Union during the past year.

In order to counteract the baneful influence of that and similar falsehoods, one of our Vice-Presidents, Mr. A. I. Root, has issued a "card," offering $1,000 for the proof of the existence of such a fraudulent article on the market, but as it does not exist, the offer is not taken! When pressed for proof, the peddlers of the lie have to admit that the evidence they rely on is mere hear-say, and at the critical moment vanishes out of sight!

An insolent Virginian braggart is the latest defender of that lie. The Union took up the case and demanded the proof. In short, this modern Goliah was frustrated—beaten at every turn—and his vaunting trailed in the dirt before his very eyes!

Such offensive braggarts must be taught to make sure of their proofs before parading them in the face of the intelligent public. The National Bee-Keepers' Union exists to fearlessly teach the impudent, that Truth shall triumph, even though such a "Goliah" may defiantly and tauntingly say: "Come on, saints and sinners, 'Barkis is willin'," "I can prove it," etc. Audacity cannot win, especially when the Union lifts up the standard, and defends the pursuit.

In this connection, the Union has forced Prof. Wiley to make this astonishing confession:

> At the time, I repeated this statement more in the light of a pleasantry than as a commercial reality, for *I did not believe that it was* POSSIBLE *commercially to imitate the comb.*

Therefore, he "knowingly, wilfully, and maliciously" lied, out of whole cloth, just to cause a sensation, and to injure an honest pursuit. It is astonishing that any man could make such a bare-faced confession without blushing for the infamy it exhibited!

Lawyers, doctors and ministers have been caught repeating the diabolical *lie*, and even this Virginian ventures to repeat it! But all have come to grief before the Union's triumphant banner of truth!

Poisoning the Bees.

A paper in Atlantic, Iowa, published a malicious article against bee-keeping, and advised the grape-growers to poison the bees in their localities, making wild and untruthful assertions about the "grape-raising industry having been almost entirely killed out in Ohio, by this nuisance." The Union proved this to be a malicious falsehood, and the author of it was shown to be either ludicrously ignorant, or a vile slanderer!

Mr. W. M. Bombarger, of Harlan, Iowa, a member of the Iowa Horticultural Society, and a fruit-grower, in a letter to the Bee-Keepers' Union, states that the article in the *Messenger* should "receive the condemnation of the intelligent grape and fruit grower of the State which it *mis*-represents," and adds:

> That the grape-raising industry in Ohio has been killed out by honey-bees or apiarists following their harmless pursuit, I assert is false, whether the assertion be made maliciously or ignorantly, and is proven so by the report of the commissioner of agriculture for 1888, page 116, where, commenting on "The shrinkage of yield in Ohio," he reports as follows: "The shrinkage of grapes in 1881, 1883 and 1885 was due principally to three facts which cannot be separated—rot, mildew, and the effect of the previous severe winter."

I regard the honey-bees as one of my very best friends in grape and small fruit culture, and keep a small apiary in my smaller vineyard, which is so located that the path of the bees, in the air to their best pasturage during the blossoming season, is over my larger vineyard.

I find the bees so valuable in fertilizing fruit bloom that I not only encourage my neighbors to keep them, but intend doubling my stock in the near future. Their value is greatest whenever we have cool, wet weather during the fruit-bloom, and the winds cannot carry the pollen in dust form from flower to flower.

Arkadelphia "Nuisance" Case.

This case, mentioned in the last Report, will come to trial about July 16, 1888. Meanwhile Mr. Clark has been sent to jail in default of paying a daily fine for maintaining a nuisance by keeping bees in Arkadelphia, Ark.

The "Union" has employed several of the most noted attorneys in that State to defend the case, and confidently expects a decision in favor of the pursuit. It would be very detrimental to the pursuit to allow a decision against bee-keeping to be put upon record on the plea of its being a "nuisance."

Mr. Clark gives the following particulars of the case :

I was released on a *habeas corpus* bond on March 2, for my appearance at 10 a.m. the next day. I had not been home with my family more than about three hours when I was re-arrested and taken before the Mayor and fined $14 and costs, and remanded to jail again Of course it would be nonsense to pay the fine, and go back and have the same thing to go over again the next day.

The Mayor fined me one day when no one had seen any bees about my place. He sent the Marshal to my house to ascertain if he could see any bees—it was cool, and no bees were flying. The Marshal did not see any bees, and swore that he did not, but the Mayor fined me "all the same."

We have appealed all the cases—eleven in number—the first day's fine was $5.00, and an additional dollar for each day ; the last day's fine being $15.00. He even fined me after we had made affidavit asking for a change of venue, averring that I "could not get a fair trial, and that he was prejudiced," etc.

I am confident that if bee-keepers could fully realize my condition, the Bee-Keepers' Union would have 10,000 members in 24 hours.

By the enforcement of an unlawful ordinance of the city, Mr. Clark has been deprived of his liberty, and the constitutional rights guaranteed to every citizen of the United States. Even granting that it was wrong in Mr. Clark not to obey the city authorities, he should have had a speedy trial by an *impartial jury*—all of which have been denied him. Even when released under a writ of *habeas corpus*, he was, within three hours, re-arrested and fined. After demanding a change of venue, because of the prejudice of the Mayor, that functionary again fined him, denying him his constitutional rights. Mr. Clark has a strong case, and in justice to the pursuit, ought to be defended. The Union agreed to pay the Hon. S. W. Williams $250 for defending the case up to and including the trial at the Circuit Court next week.

A member of the Union gives his views of this case in these words :

It is our duty to stand by him, and hold up his hands while he is suffering imprisonment, and put to great inconvenience and pecuniary loss in the defense of a principle which is dear to us all. Surely, in a matter of this character, the injury of one is the concern of all. I would willingly pay a dozen assessments rather than have Mr. Clark worsted in this matter.

No extra assessment would be necessary, if but one-tenth of the bee-keepers of America should join the Union. The Manager does not favor an *extra* assessment, and will not consent to such, unless it becomes an absolute necessity. If its devotees will not defend the pursuit, who should do so? The defense should have universal support. A few ought not to bear the burden for all. Donations of any amount will be cheerfully received, but extra assessments are not desirable, because what may be a mere bagatelle to some might prove a *burden* to those less able to contribute their quota.

The only wonder is that there were not 10,000 members of the Union within a few months after its organization. There ought to have been *a general rush* to the defense of the pursuit.

It is a shame that, with 300,000 bee-keepers in the United States, so few are willing to defend the pursuit against its enemies. Many are selfish, and think that so long as they are not molested, they will not join the Union. But as soon as they are even threatened, they rush around for some help, and want the Union to tell them what to do, etc. But the Advisory Board has decided that the Union can defend only those who have become members before they were in trouble of that kind.

It will take nearly two thousand dollars to successfully defend the cases now on hand, and the Union must have two thousand members during the coming year, or it will be obliged to let the cases go by default—and the pursuit will suffer an ignominious *defeat !*

To those Not Members of the Union.

Reader, are you satisfied to accept the latter as the result of your apathy ? If not, sit down at once and send a dollar as a membership fee to the National Bee-Keepers' Union. You will get a receipt by return mail, and may then have the consolation of knowing that you have done your duty in this case ! It is *now* or *never !* Inaction will insure defeat—activity is *life*—energy—power !

UNION IS STRENGTH !

The Election of Officers.

It now becomes my duty to call for $1.00 for the coming year, as dues from each member. The enclosed Blank is to be used for that purpose ; and also a Voting Blank. Fill up *all* the blanks, and send to the Manager with a postal note or money order for $1.00 in the enclosed envelope. It must be received by Aug. 1, 1888, or *the vote will be lost.*

Financial Statement.

From July 1, 1887 to June 30, 1888.

Balance as per last report	$224.25
From 97 members at $1.00 each	97.00
From 194 members at $1.25 each	242.50
	$563.75
Paid S. W. Rich's suit	$100.00
Paid Z. A. Clark's suit	125 00
Printing, stamps, stationery, etc.	80.48
	$305.48
Balance on hand July 1, 1888	$258.27

Concluding Remarks.

I now submit my third annual Report with the hope that it will meet with general approval. Having served the Union for three years to the best of my ability, with the consciousness of having done my duty for the pursuit, I shall welcome my successor as soon as your choice is revealed.

Yours fraternally,

THOMAS G. NEWMAN,
General Manager.

IOWA.

The Condition of the Bees, and the Prospects.

Written for the American Bee Journal

BY EZRA. J. CRONKLETON.

As so many complain that the prosy side of bee-keeping is always told, I will give a little of the other side as regards this part of Iowa. My bees were wintered in the cellar, on good linden honey, and lots of it, with no loss of colonies. They were put on the summer stands on April 1, the weather that month being cool and unfavorable. During May the weather was cool, wet and unfavorable in the extreme, there being at least 20 days that the bees were confined to the hives.

The whole spring bloom passed away with but very little benefit to the bees ; still with all these discouraging circumstances, when June arrived, my bees were in very good condition for white clover ; but, alas, the clover bloomed and the cool air that has prevailed all the spring continued. The clover seems to secrete nothing, and the consequence is that I have not had one swarm of bees.

My bees are now fully as weak as they were last April. I have fed hundreds of pounds of honey, and probably 100 pounds of sugar, to keep them alive until linden bloom arrives ; if that does not secrete any nectar, I will be discouraged. It keeps down increase, and entirely does away with the swarming, that so many are so uneasy about. I have lost no colonies yet, but I hear of many that have lost all within the last ten days.

I have 42 colonies of bees this season. I have been very successful until this season, but I have not learned it all yet, I presume ; at least I have not

learned how to run my bees the whole season through on sugar syrup, and report a success.

I hope the above condition of affairs is confined only to this part of the State. The trouble is entirely climatic. This country is (to look at) a perfect garden ; clover blooms and corn grows as it never grew before. We have had plenty of rain—rather too much—and everything is booming except bees. Is it not strange ?

Dunlap, Iowa, June 26, 1888.

NEW YORK.

Various Honey-Plants — Superseding Queens.

Written for the American Bee Journal

BY LESLIE STEWART.

We have had a very poor season here. Every bee-keeper says that it has been the worst season they have known for many years. The weather has been very cold and cloudy, with a great deal of rain. The honey crop has been an entire failure so far. Fruit bloom yielded but little, and that was very thin.

The ground is white with clover, but not a bee can be seen on it. Raspberries are in full bloom, and the bees are getting a little honey from that source, but hardly enough to keep up brood-rearing.

Basswood will be in bloom in about one week, and there will be quite a large amount of blossoms, but not more than two-thirds of what we had last year. I shall expect to get a good amount of honey from that and buckwheat, as they are our only hope.

In May, after doing the transferring, I had a large amount of second quality of honey, most of which was in combs; shortly after fruit was through blooming, I put it at different places about 20 rods from my apiary, and allowed the bees to take the honey, which caused the queens to fill the hives with eggs, and has added largely to the strength of the colonies. After the honey was all gone, they showed some signs of being crosser, and were a little inclined to rob ; but there is no danger if the bees are Italians, and the entrances are not too large.

Superseding the Queen.

The question of superseding queens has for a long time been a perplexing one to me, but after several years of careful watching, I have come to the conclusion that not more than half of our queens should be kept longer than two years. Of course I do not believe in killing good queens because they are two years old, but all that have not proven themselves good layers, producers of good workers, etc., should be superseded. There certainly should be but few kept that are over three years of age, as prolific queens are the making of our colonies.

Jefferson, N. Y., July 1, 1888.

NEBRASKA.

The Season and Blooming Plants in Nebraska.

Written for the American Bee Journal

BY R. R. RYAN.

The past spring has been rather a poor one for bees, as it was so cold and windy that they were deprived of the plum blossoms, exeepting for two days. They have not built up as strong as last season up to this date, and I have heard of only two swarms. Bees are now doing finely, and are building up fast. They are getting considerable honey from the red clover. The white clover seems to have no honey in it, and I seldom see a bee working on it. We have just had a fine shower, that will help the bees, or rather, produce more nectar for them.

I think that about 20 per cent. of the bees were lost in winter and spring, and a great many had to be fed during the month of May. Since then they have gathered enough to keep up breeding. We do not expect much honey in this locality until fall, when we have always had a good yield from buckwheat, heart's-ease, golden-rod and other fall flowers. We missed the raspberry bloom, as most of them were winter-killed, like the grapes.

Considerable Alsike clover is being sown now, and while clover is spreading on the roadsides nicely, and on wild pastures, wherever the seed has been sown or scattered. My Chapman honey-plant was winter-killed. I had some 25 stalks covered with straw or light manure, the latter part of the winter, and now I have two left, and one is very weak, while the other is looking very nice. It has several balls nearly ready to burst open. I shall try to give a report of the work of the bees on it later.

There is no sweet clover in this locality, but there is considerable black mustard in the flax fields. Bees are also very fond of working on rhubard blossoms. They were very busy on the strawberries, and are lovers of the Russian mulberry blossoms, and of the fruit of the white ones. I expect to double my number of colonies, and get at least 40 or 50 pounds of honey per colony, which I have been able to do the past two years.

Bradshaw, Nebr., June 26, 1888.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Aug. 3.—	Ionia County, at Ionia, Mich. H. Smith, Sec., Ionia, Mich.
Aug. 14.—	Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.
Aug. 27.—	Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.
Sept. 8.—	Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.
Dec. —.—	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER-BOX

Poor Prospects for Bees.—Byron Benton, Bronson, Mich., on June 28, 1888, says :

The season in this locality has been a poor one for bees. It has been too cold and wet the most of the time. They are up fair with brood-rearing, but they have not done much swarming or storing honey yet. They have gathered barely enough to live on as yet. They are much behind, as compared with this date last year. The prospect is very poor for the bees to store enough to last them until another spring.

Bees Selecting a Home before Swarming.—Wm. Anderson, Sherman, Mo., on June 30, 1888, says :

Do bees have a place to go to before leaving the old home ? The other day while I was out in the barn-yard, I heard a swarm of bees coming. I ran and made a noise until I could obtain a bell. I followed the bees up a steep hill, ringing the bell, and finally I got them to stop, as I thought. They formed a funnel shape around a dead hickory tree, beginning at the top and lowering to the roots of the tree. Not thinking of a hole being in the tree, but thinking that I was going to have a good time in getting the bees into a hive, and the bunch of bees getting no larger than at first, I went to see, and to my surprise I saw a hole in the roots of the tree, and they all went in it, and are now at work in the hickory tree.

My Experience with Bees.—W. J. Netherton, Raglan, Ont., on June 28, 1888, writes :

On June 20, 1886, I bought a colony of bees, and I took 64 one-pound sections of honey that summer ; but I had no increase, so I packed that colony in a box about Dec. 1, with chaff around it. They wintered all right, and I put them out in the spring of 1887. I had 2 swarms, but no surplus honey in 1887. Last fall I packed 2 colonies in boxes the same as before, and the other colony I sold ; one colony died about April 1, with about 3 frames of honey in the hive. The other one appeared all right then, but it has dwindled to a mere handful. They are in the Langstroth hive. It has been a cold, backward spring, and very dry; more rain has fallen to-day than for weeks past. Bees in this locality are not doing much. A great many died in the spring, and many more dwindled down so that they are not worth much.

Expects a Surplus from Basswood.—B. W. Peck, Richmond, Ohio, on June 28, 1888, says:

Bees in this locality are not storing honey very fast yet, and now it is wet and rainy. The bees are in good condition, however, and basswood is budded, so we may get a fair surplus yet. I lost only one colony out of 48, although 2 or 3 colonies just squeezed through; they were too weak to build up, so I will use them to hatch queen-cells, and work 45 colonies for honey. Bees are swarming but very little yet.

No Swarms and Little Honey.—S. K. Carson, Chatsworth, Ills., on June 28, 1888, says:

Bees are doing nothing here this season. The winter losses were very heavy. I saved 14 colonies out of 96, and that is about an average throughout this part of the country. What colonies are left are now strong in bees, but there is little honey even in the brood-combs, and no swarms have issued.

Honey Prospects in Michigan.—S. J. Youngman, Lakeview, Mich., on June 24, 1888, writes:

The strongest colonies of bees have stored from one to two gallons of honey, from white and Alsike clover, with but little increase. Many colonies have failed, however, to store any surplus as yet; and owing to the extremely hot and dry weather, the clovers have begun to fail, and are yielding but little nectar. I have been building great hopes on the basswood, but upon felling a large tree, I find that there will be but little nectar from that source, as there are but few buds put forth for bloom, for some reason; consequently it really looks bad for the bee-keeper in this part of Michigan. We may get a large crop of honey from buckwheat, of which a large amount has been sown. It certainly looks discouraging, as we had a poor season and light crop last year.

Bees did Well on White Clover.—W. Addenbrooke, North Prairie, Wis., on June 27, 1888, writes:

The following is my report for the winter of 1887-88: I put 120 colonies into winter quarters, and removed from the cellar 117 colonies in good condition on March 19, 1888. I sold 9 colonies, and have now 93. We had a cold, wet spring, and I had to feed my bees until two weeks ago, when white clover came into blossom; we have had very hot weather for one week—over 90° every day. Bees did well, filled up their hives, and some colonies very nearly finished one set of sections; but the last four days have been cold and wet, and bees have not been able to fly for two days. It is cold and raining yet. It was the worst spring for getting colonies in good condition in time for white clover, that I have ever seen.

Experience with Bees.—Mr. L. D. O'Dell, Protection, N. Y., on June 20, 1888, writes:

A year ago I bought one colony of bees, which cast one good swarm, and stored 27 pounds of comb honey. In November, 1887, I bought 8 colonies, which I put into the cellar. In January I bought 5 more colonies that were on the summer stands. Owing to the severe weather, I did not move them until Feb. 20, when I brought them home (22 miles) and put them into the cellar. On March 20 I put them out for a cleansing flight, and at night replaced them. I left them in until April 26, when I placed them on the summer stands. They were all in good condition excepting one colony, which was queenless, and it was united with another. I replaced that colony by buying another one. My apiary has increased to 28 colonies, and now the bees are booming on white clover.

Some bee-keepers advise starting with one colony, and working up; but I believe that a person who has energy enough to succeed in bee-keeping, can as well start with 20 colonies as with one. At first no one need expect to succeed unless he educates himself in the business, by reading at least the leading works and periodicals published on bee-culture. Six of my colonies were in box-hives, but I transferred them into the Langstroth hives, by the Heddon method.

My bees have been gathering surplus quite fast for a few days. I sowed 9 acres of Alsike clover mixed with red clover and timothy, and I am sowing about 5 acres of buckwheat. I have the only bees within three miles of this place.

Favorable Prospects for Basswood.—Christian Weckesser, Marshallville, O., on June 30, 1888, writes:

Our clover season is pretty much a failure, but bees have been getting considerable aphides honey of very poor quality; though being mixed with clover honey, we think it will answer for wintering. The prospects for some surplus from basswood are favorable, and recent rains have revived white clover, so that it looks more promising than before. During such seasons we find it more profitable to have only from 15 to 20 colonies at a place, about two miles apart; as they almost always get enough honey so as not to require any feeding.

Waiting for Basswood and Buckwheat.—O. R. Goodno, Carson City, Mich., on July 1, 1888, writes:

At this date from 100 colonies I have not had a single swarm, and as yet I have not seen even one drop of honey in a case, though I have several cases on the strongest colonies. Last year our swarming had nearly ceased by this time, and our surplus was nearly all gathered; none was gathered after July 5—the bees only sealed up the partly filled combs. Last year the first basswood was in bloom on June 26; but it will be several days before the first will open this year. Basswood and buckwheat are our only hope this year.

Worse than Moonshine.—Ben Foggy, of Iowa, describes his apiary and its surroundings in the following graphic manner:

I must tell you how I manage my bees. They are beautiful creatures, being instead of 60,000 in my colony, only about 100. These bees are large and golden in appearance, and about the size of a bumble-bee without the bumble. I have them situated in a room on whose walls are hanging the most natural paintings of all the best honey-producing plants in this vicinity—such as sweet William, honey-suckles, sweet Cicely, etc., and these are framed in gilt frames, from which the bees gather pollen. When I desire a certain kind of honey, I take down all of the other paintings, and so secure just what I want.

In one corner of this room I have all the best honey records in the world, and the old saying being true, that the bees will partake of the spirit of the master, these bees will not be surpassed in any respect, and their record outshines any record ever made; in fact it so flaming that I am tempted to believe that none would think it true were I to tell it. When the paintings get faded, I have them re-painted and varnished.

With the above arrangements I can keep bees as well in the winter as in the summer. The bees work nights, Sundays only being excepted—(this last idea would suit some farmers, all but the "Sundays excepted"), as I have this room so well planned with reflectors so arranged as to collect the rays of the moon and throw them just where they are most needed. There may be some Mr. Wiley, for instance, who is incredulous enough to doubt this statement. To those I would say, do not go to New York or Boston, thinking to find it. It is a Western enterprise.

Poor Prospects for Honey.—Reuben Havens, Onarga, Ills., on June 29, 1888, says:

I put 104 colonies into the cellar, strong in bees, but some of them were light in honey. I have lost 45 colonies, being the heaviest loss I have ever had. I examined some of my best colonies this week, and I find but little honey, and not a queen-cell in any of them. There is not one pound of surplus honey. White clover is nearly all winter-killed. The prospects for a honey crop are the poorest that I have ever seen. Bee-keepers here are all discouraged, and many disgusted with the business. Many have lost all their bees. More than one-half of the bees in the county are dead. I have been so crippled with rheumatism for the last 15 years that I could do no heavy labor, and a great part of the time helpless; hence I have depended, to a large degree, upon my bees for my bread and butter. With almost a failure last year, and a prospect for an entire failure this season, the future does not appear very encouraging. I shall try to keep what there are left in as good condition as possible, and hope for a change in the programme.

Excellent Prospects.—Jno. Blodget, Flag Springs, Mo., on July 1, 1888, writes:

My bees are booming. My 9 colonies came through the winter all right. I lost only one, which was weak, and one packed in chaff on the summer stands. I have to-day hived the twelfth natural swarm, and I have made 3 by dividing. Fifteen are working in the sections, 5 have two racks on each hive. I never saw better prospects, so far. I expect to have several more swarms, and a large report this fall. Linden is on the eve of blooming now, there is clover enough for what bees are left, and the nice rains we are having will keep it fresh for a long time. We had a fine rain last week, so that it hindered plowing corn for four days. Wheat, oats, corn and hay are very promising; in fact everything is lovely.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	Club
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.
HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.
June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 14c.—Dull.
BEESWAX.—23@24c.
June 14. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—We get 15c. per lb. in a small way for best comb, and less for off grades. Extracted, best white, 7@8c. None of the new crop received yet, but there is more than sufficient of the old crop for the light demand.
BEESWAX.—22c.
R. A. BURNETT,
Jun. 30. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@65c. per gallon.
BEESWAX—Dull at 23½@24c.
Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—No white clover left in this market. Dark slow sale at 8@10c. Extracted ready sale on arrival. New crop will meet with good demand.
BEESWAX.—23c.
July 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is good. Comb honey, 12@15c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Jun. 14. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 14@16c.; 2-lbs., 13@14c.; 3-lbs., 12@13c. Extracted, white in kegs and ½-barrels, 8@8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 6@6½c. Demand good for extracted, but dull for comb.
BEESWAX.—22@25c.
July 2. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@23c.
Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice new 1-lb. sections in good demand at 15@16c., not glassed; dark ones not searched; 2-lbs and extracted there is no demand for. Stock of old honey is light, and the sections are all glassed, which style the trade do not like.
BEESWAX.—None in market.
Jun. 30. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 14@16c.; 2-lb. sections, 12@13c. New Florida extracted, 8@9c. Sales are very dull.
BEESWAX.—25 cts. per lb.
July 5. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Choice new extracted, 5 to 5½c.; amber to light amber, 4½@4¾c. Choice comb in 1-lb. sections, 13@14c.; 2-lbs., 12@13c. Arrivals are small, as apiarists are holding back. Prices are considered high.
BEESWAX.—18@22c.
Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.
June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, bright, 5@5½c.; dark, 4½@5c.; in cans, 7@8c. Comb, choice white clover, in prime order, 13½@15c.; dark, less. Market quiet with fair demand for extracted.
BEESWAX.—22c. for prime.
Jun. 27. D. G. TUTT & CO., Commercial St.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Advertisements.

FOR SALE—600 Colonies in the movable-comb hives, at $4.00 for Italians, and $3.00 for Hybrids.
25A13t G. H. ADAMS, Troy, N. Y.
Mention the American Bee Journal.

ITALIAN QUEENS—Untested, 75c. each; 6 for $4.00; 12 for $7.50. Address,
26Atf John Nebel & Son, High Hill, Mo.
Mention the American Bee Journal.

SHIPPING-CASES to hold 12 1-lb. sections or 14 7-to-the-foot. Nicely cut. Per 100, $6.00. Glass for same 65 cents per 100. Two and 3 frame Nuclei cheap. (Free Price-List). M. H. HUNT,
28Etf Bell Branch, Wayne Co., Mich.
Mention the American Bee Journal.

75 COLONIES of Italian and Hybrid Bees for sale, or trade for land; in A. I. Root's Simplicity hives, 10 frame, L. F. Nearly all wired, and nice straight combs. Everything on the most improved modern principles. I am changing climate for my health, is the reason for my selling.
28A2t E. SANDFORD, NOKOMIS, ILLS.
Mention the American Bee Journal.

HANDSOME
ONE-PIECE SECTIONS.

WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

SOUTHERN HONEY WANTED!

WE are likely to have good use for a lot of **Southern Honey** in the near future, and invite shipments **now.** Address,

CHAS. F. MUTH & SON,
26A3t Freeman & Cent. Ave., Cincinnati, O.
Mention the American Bee Journal.

HEDDON HIVES FOR SALE.

I HAVE a hundred, all complete—just finished. Purchaser given right to use them, by Mr. Heddon. Will sell at $3.00 each, in lots of 10 or more. Inquire of,
27Atf E. D. KEENEY, Arcade, N. Y.
Mention the American Bee Journal.

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **Price, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,.... CHICAGO, ILLS.
Mention the American Bee Journal.

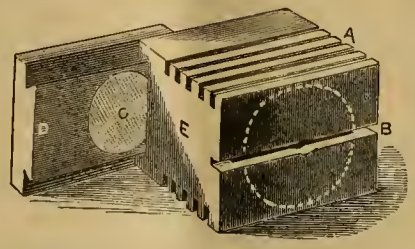
CARNIOLAN

Gentlest bees known; not surpassed as workers even by the wicked races.
Imported Queens, "A" grade, $8.00, Tested, $4.00; Untested, $1.00,

QUEENS.

One-half dozen $5 00
Never saw foul brood. Cash always required before filling an order.
S. W. MORRISON, M. D.,
14Etf. Oxford, Chester Co., Pa.

Queen Shipping-Cages.



WE have a lot of Queen-Cages, like the one illustrated, not provisioned, which we will sell **3 for a dime,** by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

Eaton's Improved
SECTION-CASE.
BEES & QUEENS. Send for free catalogue. Address
FRANK A. EATON,
7Etf BLUFFTON, OHIO.
Mention the American Bee Journal.

ITALIAN BEES and QUEENS.

ONE Untested Queen, $1.00; 3 for $2.00. BEES by the Pound and Nucleus. Send for Price-List.
Address, H. G. FRAME,
9E13t North Manchester, Ind.
Mention the American Bee Journal.

VICTOR SAFE.

DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.

We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with sub-treasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,... CHICAGO, ILLS.
Mention the American Bee Journal.

HOW TO RAISE COMB HONEY,

PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.,** and Supplies OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.
Mention the American Bee Journal.

BEE-SUPPLIES, RETAIL AND Wholesale.

The Largest Steam-Power Shops in the West; exclusively used to make **Everything** needed in the Apiary, of practical construction and at **Lowest Prices. Italian** Bees, Queens, 12 styles of Bee-Hives, Sections, Honey-Extractors, Bee-Smokers, Bee-Feeders, Comb Foundation, and everything used by Bee-Keepers always on hand. My Illustrated Catalogue FREE. E. Kretchmer,
16Etf Coburg, Iowa.
Mention the American Bee Journal.

SAMPLE COPIES of the **AMERICAN APICULTURIST** and our Price-List of Winter Strain of Pure Italian Bees sent free. Address,
18Etf APICULTURIST, Wenham, Mass.
Mention the American Bee Journal.

GLASS PAILS FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.

Prices are as follows:

To hold 1 pound of honey, per dozen, ... **$1.60**
" 2 pounds " " **2.00**
" 3 " " " **2.50**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.
Mention the American Bee Journal.

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free.
J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.
Mention the American Bee Journal.

WE will SELL CARNIOLAN QUEENS, reared in June, July and August, 1888, until further notice. Untested queens $1.00; tested, $2.00; tested and selected, $3.00.
ANDREWS & LOCKHART,
24Atf PATTEN'S MILLS, Wash. Co., N. Y.
Mention the American Bee Journal.

Wood's Italian Queens

ARE now ready to ship. Every one is warranted, and all that are not equal to any in the country are replaced by Extra Tested Ones of 1888 rearing; **98 per cent.** of all Queens sold last season proved purely mated, and, as far as I know, every customer is satisfied. **Warranted Queens,** 75 cents each; 6 for $4.25; 12 for $8 00. Address,
JAMES F. WOOD,
26Atf NORTH PRESCOTT, MASS.
Mention the American Bee Journal.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. July 18, 1888. No. 29.

EDITORIAL BUZZINGS.

Raise the pickens for the chickens,
Raise the baby on your knee,
But never raise a rumpus
With a nimble honey-bee.

Don't you slight him, don't you fight him,
Even on your own domain;
If you do it, you will rue it
While you wrestle with a pain.

Don't you boss him, don't you cross him
When the flowers are in bloom;
If you meet him, try to greet him
With respect and lots of room.

We Regret to learn that Mrs. L. Harrison has been quite seriously ill. Her last letter to us was written while propped up in bed, with a bowl of ice and a spoon in it by her side. She is convalescing now, and we hope will soon be well again.

Honey Prospects.—Mr. C. H. Dibbern, of Milan, Ills., in a letter just received, gives this as his opinion concerning the prospect of a honey crop for this year:

About one-half of my colonies have swarmed, and most of them are now working in the sections. Sweet clover is now in full bloom, and the bees are just swarming on it. Basswood is about done blooming, and there is not much white clover, but I think it will come out again in August. I think the prospect for a large fall crop are very good.

Concerning the prospects in Canada for a honey crop, Mr. R. F. Holtermann, Brantford, writes as follows:

The clover in Canada is a complete failure. We shall not have on an average 4 pounds to the colony. Basswood may yield well in the western counties, but in the eastern counties I doubt if it will do so, because the drouth is so great. The pasture fields are all bare, and cattle are starving. We shall have a poor yield generally, I feel certain. Basswood here is just opening.

To Prevent Stings.—Nearly every one is aware that the human body is covered with many thousands of tiny pores in the skin, and that health depends largely upon keeping these pores open by frequent bathing. From the facts given by W. L. Wilder, in a recent number of *Science*, it would appear that these pores are so many mouths, capable of opening and closing in unison with the action of the lungs. Mr. Wilder says:

It is a fact not generally known that if one holds his breath, wasps, bees and hornets can be handled with impunity. The skin becomes sting-proof, and, holding the insect by the feet, and giving her full liberty of action, you can see her drive her weapon against the impenetrable surface with a force that lifts her body with every stroke, but let the smallest quantity of air escape from the lungs, and the sting will penetrate at once. I have never seen an exception to this in 25 years' observation. I have taught young ladies with very delicate hands to astonish their friends by the performance of this feat, and I saw one so severely stung as to require the services of a physician, through laughing at a witty remark of her sister, forgetting that laughing required breath. For a theory in explanation I am led to believe that holding the breath partially closes the pores of the skin. My experiments in that direction have not been exact enough to be of any scientific value, but I am satisfied that it very sensibly affects the amount of insensible perspiration.

We have repeatedly called attention to the fact that it has been proven that any one can prevent being stung by holding the breath. If it is a fact, as Mr. Wilder avers, that the lungs and pores act in concert, and that when breathing the pores open and close involuntarily, then the peculiarity of the situation is fully explained. We would commend this subject to the attention of the physicians and scientists of whom there are hundreds on our subscription list. Let some experiments be made to test the matter most fully, and then let our readers learn the results in detail.

Open-Side Sections.—Mr. Walter S. Pouder, of Groesbeck, O., has sent us a sample of his new sections. They are nicely made, and show a considerable amount of ingenuity, but as they could not be used in the T-super and ordinary crate there will be but little chance for them to come into use. Another point is that four-piece sections are driven out of use by the one-piece sections, and no four-piece sections can now fill the demand for these useful receptacles.

Study and Labor are the means leading to success and profit in apiculture. This is how the *Rural Canadian* puts it:

The subject of honey and marketing is one which concerns nearly every bee-keeper, and very properly too, because in these, aside from pleasure, rests the just reward of study and labor, for it is fallacy to think that without study and labor in bee-keeping, as in all other pursuits, any great results can be accomplished. In marketing honey it should never be forgotten that a good article, in an attractive form, will always command the highest price, the best reputation and a steady demand.

Astonishing.—The July number of the *Bee-Keepers' Magazine* makes a strange blunder. Everybody knows that the AMERICAN BEE JOURNAL and *Gleanings* have for years been making a vigorous fight *against* adulteration. The *Magazine* must have been sleeping, and having just awakened from a troublesome dream, perhaps, imagines that we have been on the other side of this question. In its July number it says:

We are at a loss to know why *Gleanings* and the AMERICAN BEE JOURNAL should take sides with the adulterators who are ruining the honey market of America.

And so are everybody else "at a loss to know" it—for it is *not so!* No sane man would ever think of such a thing.

All this is in reference to the "Report of the Dairy Commissioner of New Jersey," on the purity of honey, as published on page 387, and there commented upon. The MAGAZINE further says:

By referring to page 108 of the MAGAZINE, it will be noted that at the head of the results of the analysis are placed the words, "*strained honey*," and that the words "comb honey" was simply the legend on the label. Men who adulterate will not hesitate to lie.

The labels on this bottled honey, are as great a lie as any Wiley ever told, and yet Mr. Newman and Mr. Root both call the man who put up this vile trash, "honorable men." Shame on you, brother editors! We do not impute to you dishonorable motives in taking sides with these rascals, but simply believe you do so through ignorance. *We* propose to fight adulteration whenever and wherever it appears.

We repudiate the imputation—and positively deny that we called the persons who put up the honey in question "honorable gentlemen." Let the proof be presented, or Brother Aspinwall must take it back as an "honorable gentleman." We regret that the *Magazine* should have made the unkind allusions. Though it was the only bee-periodical which published the "Report" in question, we refrained from making any unkind remarks upon that fact, because we desired a continuance of the pleasant relations then existing between the editors of all the bee-papers.

Surely, "it would seem that when a man performs a kindness, he seldom gets any credit for it"—as the *Magazine* says at the head of the article.

Mr. J. T. Wilson, of Nicholasville, Ky., has a very pleasant notice in the Jessamine, Ky., *Journal* for June 15. After reviewing his queen-rearing facilities, and the location of his apiary and surroundings, the *Journal* says that the care of his bees takes up the greater portion of Mr. Wilson's time. It is a business requiring intelligence, watchfulness and patience. He says that this immediate neighborhood is not the most favorable for bees and honey. The land is too closely cultivated. He prefers the vicinity of creeks and rivers, and lands with trees and undergrowth.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

GLEANS OF NEWS.

Bees Clustered on a Cow's Back.—Mr. E. C. Jordan, of Jordan's Springs, Va., has sent us the following items taken from the Campbell County, Va., *Record*. The first dated June 7, 1888, reads as follows:

We are informed that a cow belonging to Mr. Craddock, near Winfall, came up one evening not long ago with a whole swarm of bees quietly settled on her back. We did not learn whether Mr. Craddock succeeded in hiving the bees.

We have heard of the prognostic swarm of bees that settled on the lips of Plato. Virgil told us how, when the stock was lost, a new supply was obtained by slaying four heifers and four bullocks, and leaving their carcasses in a grove for nine days, when, behold! they were found filled with bees, and the grove resonant with their hum. The Bible tells us how Samson found honey and bees in the carcass of the dead lion. But this is the first time we ever heard of bees selecting the back of a living cow for their resting place.

The second, published a week later, reads thus:

Several persons have expressed to us their incredulity with regard to that swarm of bees on the cow's back, reported last week. We are authorized by Mr. David Craddock, the owner of the cow, to say that the facts as stated are absolutely true. His wife milked the cow while the bees were yet on her back. They remained four or five hours, and then sought other quarters.

How Bees Make Cells.—In *Murray's Magazine* we find the following explanation of the geometrical forms which the cells of a honey-comb assume:

Recent measurements and observations have tended to dissipate the cell myth, and to show not only that the honey-comb is far from regular, but that such regularity as it has is due merely to mechanical conditions.

Mr. Frank Cheshire tells us in his recent volume, that careful measurements of the finest pieces of comb, built with every advantage for securing regularity, show that, so far from every cell being geometrically accurate, it is difficult to find a hexagon presenting errors of less than three or four degrees in its angles. On the other hand, there is a growing tendency to accept a modification of Buffon's explanation of the origin of cell structure. Buffon attributed the regularity of the cells to mutual pressure; in illustration whereof he packed a closed vessel with dried peas and filled up the interstices with water. The peas, which were thus caused to swell, assumed, under the pressure which resulted, the form of more or less accurate geometrical figures.

Perhaps a still better illustration of this principle of mutual inter-action is seen in soap-bubbles. If a little soapy water is placed in the bottom of a tumbler and air be blown into the water through a tube until the upper part of the glass is full of bubbles, the hexagonal form which these bubbles assume under mutual pressure, and the trilateral pyramids at their bases, will be readily seen. Not that these geometrical figures are the same as those which the wax assumes, but they illustrate the principle. For, at the temperature of the hive, the wax, pared thin by the smooth-edged jaws of the workers, has all the plasticity of a fluid membrane. The bee has indeed to avoid the danger of paring away too far, and thus making a hole through the wall. But even here it may be aided by mechanical conditions.

If we take a thin piece of soap and pare away one face with the blade of a pocket-knife, we shall soon form a transparent patch where the soap is very thin. But if we continue to pare we do not cut through the soap at this point; but for a time at least, we merely enlarge the area of the transparent patch. The thin film of soap yields at this point, and the stress of the blade falls on thicker and less yielding edges. Some such mechanical yielding of the wax may guide the bee in its work.

Honey Harvest Closed in Alabama.—B. B. Toney, Padgett, Ala., on July 6, 1888, gives this information concerning the honey harvest of Alabama, and that locality as a profitable place for bee-keeping:

I closed my honey harvest yesterday for the year 1888. I commenced in the spring with 120 colonies of bees, about 20 colonies were weak, and 100 were strong and populous. I have not finished measuring yet, but my crop will go to about 1,000 gallons when done. This makes an average of about 8⅓ gallons, spring count. Quite a large number of colonies gathered from 12 to 14 gallons each. Our poplar was the largest flow, and the quality of the honey fine, thick, and well flavored. The linden was only one-half of a crop, but very good. This year is the best for honey that we ever had. Of this I expect to sell 800 gallons.

This county lies in the northeast corner of Alabama, and is without doubt the best for bees in the State. If any one wishes to locate in Alabama, let him come and see before locating. Perhaps the rough mountains will fright him away. Its roughness is the secret of my success. This is in answer to Mr. Geo. W. Morris' request on page 332 of the BEE JOURNAL.

Investments in Bee-Keeping.—The following are given in a late number of the *City and Country*, as the statistical items concerning bee-keeping:

Statistics show that the total amount of honey produced annually in America is estimated at 120,000,000 pounds, which at the average of 15 cents per pound, places the value of the products in first hands at $18,000,000. The product of the hives is not the only thing valuable about this industry, evidenced by the fact that the colonies in this country number over 3,000,000. At the average price of $11 per colony their value would be $33,000,000. This sum added to the total product of the hives make the total involved $51,000,000. The United States and Canada produces the bulk of the product.

The average price of honey at wholesale is not now over 10 cents per pound, when counting the whole crop of both comb and extracted; and $11.00 per colony for bees is double the amount of their value.

Chapman Honey Plant.—Mr. L. Highbarger, Leaf River, Ills., on July 7, 1888, says:

Those who have the Chapman honey plant should examine it closely, as there is a worm that is cutting the balls off. It resembles a caterpillar, but is whitish in color. It does its work very quickly, and needs looking after every day. A friend of mine tells me that it is destroying his plant, and he lives five miles from here.

Recipes for Honey-Cakes, etc.—J. W. Tefft has sent us a lot of recipes for making honey-cakes, etc., which we publish for the benefit of our readers. The use of honey in making cakes, cookies, and other fine articles of food, has long been practiced, and some of the nicest we ever ate were made with honey. We wish that honey was more generally used than it is in making such articles. Here are the recipes:

HICKORY CAKE.—Stir one cup of honey and one-half cup of butter to a cream; add the yolks of four eggs beaten up, one-half cup of sweet milk, two cups of flour, one tea-spoonful cream-of-tartar, one-half tea-spoonful of soda, whites of eggs well beaten, one coffee-cup of hickory nuts, a blanched almond chopped fine, and one coffee-cup of raisins.

BRIDE'S CAKE.—One cup of butter, two cups of honey, three and one-half cups of flour, one cup of corn-starch, one cup sweet milk, and the whites of six eggs beaten to a stiff froth. Beat the honey and butter to a cream, then add the starch and flour, and two tea-spoonfuls of cream-of-tartar mixed in flour, and one of soda in the milk. Put the eggs in the last thing.

ANGEL CAKE.—One and one-half cups of white honey, the same amount of flour, one tea-spoonful of cream-of-tartar, one of Coulton's vanilla, the whites of eleven eggs; sift the flour four times, add the cream-of-tartar and sift again. Beat the eggs to a stiff froth, add the honey, beat lightly, then add the flour. Do not stop beating until you put it in the pan. Bake moderately.

PUMPKIN OR SQUASH PIE.—Pare and stew a pumpkin or squash until it is soft and dry. It must be done slowly at the last to prevent scorching. Put through a colander, and to one cupful of the sifted pumpkin add one egg, four table-spoonfuls of honey, a pinch of salt, one tea-spoonful of ginger or cinnamon, and one pint of milk. This will fill one pie on a large plate. Make a crust as for any pie, and turn the edge under on the plate, pinching in shape to form the rim, but make it thin and delicate. Bake slowly until of a golden brown.

Then Mr. Tefft offers the following suggestions concerning the systematic use of honey, and its desirable effect on the system:

Sweeten your tea and coffee with extracted honey. It is a true brain and nerve food and tonic. It gives refreshment and nutriment to the mental and physical exhaustion, and tired and confused brain: gives new life to the weak and debilitated, relieves nervousness from excess or any causes; improves the appetite, tones the system, and has proven to be of great value in many diseases, producing a contraction of the muscles of the digestive organs; and as an aid to digestion it is wonderful in building up lost power. It would be difficult to conceive of anything more nourishing and strengthening, creamy and delicious. For nursing mothers it is highly recommended. For lung and throat diseases nothing can be better. It is a cheap remedy for the consumptive, and in fact it should take the place of sugar in many things.

Most Valuable to the horticulturists, is what the *Farm, Field and Stockman* says of the honey-bee. Here is an item from its last issue:

The bee is the friend of horticulturists and agriculturists, and as there is no insect that increases in such vast numbers so early in the spring, when their services are so much needed, they are of more value to the farmer, gardener and fruit-grower than all other insects.

Humorous.—Mr. Eugene Secor writes from Lime Valley Apiary, Forest City, Iowa, on July 9, 1888, in this humorous strain :

THOS. G. NEWMAN—*My Dear Sir and Friend :*—I enclose a draft for $1.00, and my vote for officers of the National Bee-Keepers' Union for the next year. As a general thing I am opposed to the principle of holding *remunerative* office for more than three terms, but in your cases I have such high regard and warm personal feeling for you, that I am willing for you *all* to enjoy the fat salaries another term. After you all get rich from the official emoluments, I expect you to form a *Trust*, and buy all the honey offered at less than 30 cents per pound.

So far as the Manager is concerned, he would be *delighted* to pass over the duties and "fat salaries" (often consisting of vigorous kicks and abuse) to some person who has more time to gratuitously devote to the management of the Union's affairs. He has given *months* of time to the Union, besides paying yearly dues like any other member. Why not put Brother Secor in that place for one year at least? He is a lawyer, a gentleman, a scholar, and a poet; and is eminently fitted to fill the place honorably—and when he gets rich on the emoluments of the office, he can form the "Trust" himself, and buy all the honey in the world—we shall certainly vote for Brother Secor.

We know the other officers would like a change—a chance to divide the honors and "fat salaries" with some others. Let us have a change all around. A change sometimes works wonders, and may give us 2,000 members during the coming year. Try it.

Rushing Honey to Market.—The *National Stockman* remarks as follows concerning the above subject :

Many make a mistake by rushing their honey upon the market as soon as it is obtained. Honey is not a perishable article, and during the latter part of summer, while fruits are plenty, is the dullest part of the season for the sale of honey. Better be putting in your time arranging and putting your honey in the best possible shape ; just as though it was your intention to keep it for one year at least. There will be nothing lost if you improve your time in this manner.

A Young Man residing near Ettrick, Wis., while hunting early this month, saw a swarm of passing bees, and fired his gun at them. At once they settled on him, stinging him so badly that he died within an hour. Hunters should not attempt to interfere with a passing swarm of bees. If numbers count, especially when all are armed, it is an unequal contest, especially when the hunter was not posted as to the means of defending himself by creating a smoke. As hunters have no mercy on harmless and innocent birds and animals, they cannot complain when their merciless attacks meet with a vigorous response.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

INTERROGATORIES.

Wood Sage.—Dana Twining, Green Garden, Ills., on July 10, 1888, writes as follows :

I enclose a stalk of a plant that I would be pleased to have you name. I see but little of it in this vicinity, but the bees are making good use of that little. Bees are gathering but a little surplus, and that mostly from red clover.

[It is wood sage, *Teucrium Canadense*, sometimes called American germander, and has purple flowrets. It is of the mint family, grows along small streams, and is a favorite with the bees.—ED.]

Sweet Clover.—T. F. Hawley, of Eureka Springs, Ark., on June 27, 1888, asks the following questions about this excellent honey plant :

1. Is the bloom yellow or white? Is it a fine bee-plant? 2. Will it thrive on a steep gravelly hillside that has an eastern slope? 3. I enclose a sprig of a plant growing here that I suppose to be sweet clover. The bloom is small, and bright yellow. It comes up year after year on the same plot of ground. Please give me as good an idea as possible of melilot, that I may know it when I see it, and also if bee-keepers value it much.

1. There are two kinds of sweet clover. *Melilotus alba* has a white flower, while *Melilotus officinalis* has little pendant yellow flowers ; in both, the flowers are disposed in delicate elongated racemes, exhale an agreeable odor, and both are very rich in nectar.

2. It will generally grow anywhere except on a flat rock.

3. The sprig sent with this query is from the yellow variety. The plants are assiduously frequented by the bees, come up year after year on the same ground if sown twice on the same place (it being a biennial), and will last until long after frost and snow comes in the fall.

Foul Brood.—A. D. Lord, Amiret, Minn., on June 22, 1888, asks :

How do you detect the first appearance of foul brood. I have one colony among 9 that the brood is very scattering in the comb, and about one-half die and turn black when nearly ready to cap. If not foul brood, what is it?

What is erroneously called foul brood is a disease which attacks not only the brood (sealed and unsealed), but also the full-grown bees, and even the queen is sometimes affected by it. It is usually said that "you will always find the cells sunken, and a small hole the size of a pin-head in the centre of the comb looking brown and bad ;" that the "foul stench arising from the diseased colony" will indicate the disease, but there are so many different shades and kinds of the disease that these are not the only indications. Sometimes brood, which to all outward appearance is sound and healthy, upon closer inspection will reveal the disease which has not yet attained the condition of sickening stench which is found in brood thoroughly ropy and rotten. When it has reached the latter condition, the only remedy we could advise would be fire to utterly consume bees, hives, combs, and honey.

In the milder forms of the disease, pure phenol is no doubt the best remedy. But as it is difficut to obtain the pure article except at the large wholesale dealers, it can be obtained at the office of the AMERICAN BEE JOURNAL. One drop to 500 drops of the syrup is the formula recommended by Mr. Cheshire, as will be seen by the following from his pamphlet :

"I found that 1-200 (that is one part of pure phenol to 200 parts of syrup) was refused by the bees altogether ; that 1-400 might be given constantly to a sound colony without appearing to limit the queen in breeding, *or touch her health* ; that 1-500 dispatched foul brood quickly, even while honey was coming in ; and that 1-750 appeared enough when it was not. I have established these quantities as the correct ones." Moderate quantities are, therefore, not injurious.

We would refer Mr. Lord to the Report of Mr. McLain, found on pages 473 and 474 of this issue, which gives another remedy for this much-to-be-dreaded disease.

Honey from Corn, etc.—James B. Riggins, Swanton, Nebr., on July 11, 1888, asks the following questions :

I started last spring with 18 colonies of bees. I had no increase, and obtained 1,300 pounds of comb honey. All but one came through the winter of 1887 in good condition. They are blooming on Alsike clover now. The outlook is very good for a large honey crop. I received some of the Chapman honey-plant seed, and it is growing nicely now. I would like to ask whether broom-corn ever yields much honey?

Corn, when in silk and tassel, ordinarily yields both honey and pollen in good quantities. The honey is of fair quality. In some localities and seasons it has been the sole honey-producer upon which bees could work in the fall, and build up for winter.—Will some one tell us about broom-corn? Does it yield honey or pollen?

Pleased.—Mr. W. F. Kanzler, of Fulda, Ind., on July 6, 1888, writes as follows about royal jelly, larval bees, etc. :

A thousand thanks for the article on "Larval Bees," on page 440. The valuable AMERICAN BEE JOURNAL steps on the high platform of scientific research, and thereby honors itself. Prof. A. J. Cook showed himself the greatest reformer, for he could reform himself. Mr. Stachelhausen, of Texas, gives a sample of his learning in apiculture, and will probably enlighten us hereafter. All nonsensical talk will now stop about royal jelly, stating that it is "young brood in the white state," "I saw legs and breasts plainly in it," (see the BEE JOURNAL for 1881, page 133, third column, 16th line from the top), and even the "bread-and-butter-men" will be pleased to learn how young bees are fed and nourished, and how old bees prepare their food.

QUERIES AND REPLIES.

Building a Bee-House.

Written for the American Bee Journal

Query 560.—1. I propose to build a bee-cellar in the following manner: My apiary is on high, sandy land, and descends about 1 foot in 15. Commence on the lower side and excavate on a level 4x5 feet for the entrance-way, with an outer and an inner door. Then excavate 27 feet and 2 inches by 7 feet and 8 inches, for the cellar proper. Build a sod wall on the margin of the cellar 1 foot in thickness, and in height 7 feet from the bottom of the cellar. Build a second wall outside of the first, with 10 inches of air-space between them. The plates to support the shingled roof are to rest on cedar posts set in the ground outside, and on a level with the sod walls. Cut gains in plates for joists to support a double floor overhead, covered with 2 feet of sawdust. The outside of the posts are to be rough boarded. It will have no windows, and be ventilated with two 3-inch iron pipes, one passing through the wall near the door 1 foot above the cellar bottom, leading into the open air, and the other just passing through the floor overhead, from the attic above. Will such a repository be a suitable one for wintering bees?—Mich.

Yes.—H. D. CUTTING.

I should think so.—G. L. TINKER.

Yes, if dry.—DADANT & SON.

I think it would.—J. P. H. BROWN.

It will do nicely.—C. H. DIBBERN.

As I understand your description, it certainly will.—J. M. HAMBAUGH.

I see no reason why it would not.—EUGENE SECOR.

Yes; but I think you can dispense with one-half of the sawdust.—MRS. L. HARRISON.

Yes, but I would have the ventilators so arranged that they could be closed and opened at will.—A. B. MASON.

I have no experience with cellar or in-door wintering of bees, and so I am not prepared to give an opinion.—M. MAHIN.

I always winter my bees on the summer stands, so I have no practical knowledge on the subject.—J.E.POND.

I have to leave this Query to those who have experience with cellar-wintering, as in the South we have no use for them for wintering bees.—P. L. VIALLON.

If I understand you, your building will be a house rather than a cellar, as the bottom is only about 2 feet below the surface of the ground at the deepest part. Something more underground, I think, would be better.—C. C. MILLER.

I should say that it would answer very well, but at the present time I think that the iron pipes for ventilation are not necessary. Three years of experience tells me that such a cellar needs no special ventilation, more than comes through the ground.—G. M. DOOLITTLE.

It all depends upon how thoroughly the work is done. I should not want to put bees in it until some one else had tested it. It is too much above ground, and sod walls, I fear, are too unstable. Make a radical change in your plan.—R. L. TAYLOR.

Yes, and if they do not have the diarrhea, which depends mainly upon their food, they will come out in first-rate condition in the spring.—JAMES HEDDON.

Such an arrangement in this climate would be so damp that everything would mold and decay in a very short time. In your Michigan climate, where the air carries less moisture in winter, your repository may winter bees all right.—G. W. DEMAREE.

I think that the cellar described would be a good one, if you can keep the rats and mice out of it. The ventilating tubes seem small to me. I would prefer them 6 inches in diameter, with a contrivance to entirely close them in zero weather.—J. M. SHUCK.

I should think so. The thing to be gained is to keep the temperature above 38°. I have now wintered bees several years without loss. Last winter my cellar was down to 28°, and for weeks below freezing, and the loss was great. Cellars must be frost-proof.—A. J. COOK.

To dig deeper and have something more substantial than sod-walls, would be preferable—making it more of a cellar than a bee-house. The ventilating tubes should be so made that they can be closed or opened when desired—and they are also too small.—THE EDITOR.

Position of Bee-Spaces—Honey-Boards, etc.

Written for the American Bee Journal

Query 561.—1. In using T-supers without a honey-board, which is preferable—to have the bee-space made in the top of the brood-apartment, or in the bottom of the case? 2. What kind of a honey-board do you prefer? 3. How much space should there be between the ends of the top-bars and the hive, to guard as much as possible against the bees fastening the ends to the hive?—M.

1. I prefer the bee-space at the bottom of the section-case.—J. P. H. BROWN.

1. There is no difference. 2. A slatted queen-excluding honey-board. 3. Three-eighths of an inch.—A. J. COOK.

1. In the bottom of the case. 2. Wood slats with zinc queen-excluders between. 3. Five-sixteenths of an inch.—A. B. MASON.

1. I prefer the bee-space in the top of the brood-chamber. 2. If I have a honey-board at all, I prefer one composed of slats. 3. See Query 554, on page 422.—M. MAHIN.

I know nothing of the matter practically, as I have never used them.—J. E. POND.

1. On top of the brood apartment. 2. The slatted break-joint of wood. 3. Five-sixteenths of an inch.—MRS. L. HARRISON.

1. I prefer the space in the bottom of the case. 2. The Tinker improved wood-and-zinc. 3. One-thirty-second in this locality.—H. D. CUTTING.

1. At the top of the brood apartment. 2. Perforated zinc. 3. They will stick their glue more or less at any distance.—J. M. HAMBAUGH.

1. I use the bee-space at the top of the brood-chamber. 2. Wood and zinc combined. 3. I use 1-32 of an inch.—G. M. DOOLITTLE.

1. At the top of the brood-apartment; but I would not use them without a honey-board. 2. The Heddon slat honey-board. 3. One-sixteenth of an inch, and let them fasten.—C. C. MILLER.

1. At the top of the brood-apartment. 2. The Heddon slat break-joint until swarming, then a queen-excluder on the swarm. 3. Bee-space, or ¼ of an inch.—EUGENE SECOR.

1. Either will do, and there is but little difference in handling. 2. A slatted board with 3-16-inch spaces between the slats. 3. See Query 554.—C. H. DIBBERN.

1. I would prefer to have the spaces at the bottom of the case, although it is generally used the other way; but either does not make any difference. 2. A perforated-zinc honey-board. 3. Three-eighths of an inch.—P. L. VIALLON.

1. I do not think it would make any difference. I would not want to use a T-super without a honey-board. 2. I prefer a wood-and-zinc honey-board. 3. Not over 1-16 of an inch.—G. L. TINKER.

1. I would prefer it in the bottom of the case, if I could use no honey-board. 2. I prefer the slatted honey-board described on page 297. 3. Make the top-bars of the frames pointed, and allow them to just touch the ends of the hive.—J. M. SHUCK.

1. So far as results are concerned, consult your tastes; but how could you easily put a cover on a brood-chamber full of bees, with no space over the frames? 2. The Heddon slatted honey-board with strips of queen-excluding zinc between the slats. 3. I prefer 1-32 of an inch.—R. L. TAYLOR.

1. I prefer to have half of the mechanical bee-space at the bottom and top of the cases; and have the top of the brood-chamber reduced to half the usual bee-space. 2. A horizontal di-

vision-board made of perforated zinc, with a wood rim 3-16 of an inch (half a bee-space) above the plane of the sheet, on each side. Mr. John S. Reese, of Kentucky, who has a perforating machine, has improved the zinc queen-excluding honey-board by perforating the sheets in rows, so as to come right over the centres of the top-bars of the frames, thus insuring a perfect break in the upward passways. I like his plan the best of all. 3. Three-eighths of an inch.—G. W. DEMAREE.

1. At the top of the brood-apartment, to take the cover when the surplus cases are not on, and to take a cover to the **T**-super, which must not have two bee-spaces, or how about tiering them? 2. My own; that is, one containing the bee-space and break-joint principle. 3. One-fourth inch, or none to speak of.—JAMES HEDDON.

1. There is practically no difference—either place will do. 2. The slotted queen-excluding honey-board is preferable. 3. About ⅜ of an inch.—THE EDITOR.

CORRESPONDENCE.

QUEEN-REARING.

How to Rear the very Best Queens.

Written for the American Bee Journal
BY WM. H. BALCH.

There has been very much written on this subject, yet not one has centered the mark. This is written in all kindess. I do not rear queens for sale, and I do not write this to start a controversy *pro* or *con* on artificially reared or naturally reared queens, but that the inexperienced may profit by what I have proven for many years.

All are well aware what queen-breeders say about naturally and artificially reared queens, and how much stress is laid on the "swarming impulse," larvæ three days old, strong colonies, and the first set of queen-cells reared in a colony, etc. In the AMERICAN BEE JOURNAL for May 16, 1888, is an article in which the writer says, "divide the colony." When I read that article, I felt a sympathy for the writer, and much more for those who read the article that have had small experience in queen-breeding, and expect good queens. I then thought that it was my duty to correct the error immediately.

It is a very simple and easy matter to divide a colony of bees, and rear a lot of queen-cells; one that I *once* practiced until I found some of my queens died in three months, and many within one year. This caused vexation and loss, and I began to study and experiment, and from those experiments I have found that I could rear the *very best queens*. It is done in the following manner:

At any time when bees carry natural pollen, and the drones are out, or will be at the time the queens will be old enough to make her bridal tour (early in the spring, summer, or late in the season), take the queen from a strong colony, then wait eight days, and cut out every queen-cell and insert a frame of eggs, not larvæ. Be sure that there is not one egg hatched. This is the secret, not *larvæ* but *eggs*. About trebble the number of queen-cells will be constructed, and the queens will be of the very best! The longest lived queens that I ever had, were reared according to the above method.

Oran, N. Y.

OLD QUEENS.

Shall We Supersede Old Queens Ourselves?

Written for Gleanings in Bee-Culture
BY O. O. POPPLETON.

The assertion, that bees know better when to do this work than we do, is in a certain sense true, and in other ways not true; for while they frequently supersede their queens before the apiarist can possibly deteet any failure of the queen, or, at least, before he would detect it in the ordinary routine of work, they frequently retain failing queens, if allowed to do so, for months after they are nearly worthless; but all are agreed that such queens should be replaced by the bee-keeper. The fact that, in following any rule of superseding on aeeount of age, we will sometimes destroy queens good for yet another season, is also true; but this is only one item to be considered in making a decision of what is best to do, and not the conclusive reason that the one who made it seemed to consider it was.

The entire question is one simply of profit and loss; that is, a question of which way costs the least. On the one hand we have the expense of furnishing the colonies with the young queens, which any one can easily determine for himself, and to this must be added the value of an occasional queen that would be destroyed that would be useful for yet another season. This last item is much less than many suppose it to be, and less than I supposed it was until after I had closely observed the matter for several years. On the other hand, we have a material reduction of our honey crop, resulting from the failure of many old queens at a critical time of year.

In the northern States the time of year when such failure will lessen the amount of honey stored by the colony extends from late in the fall until about July 1 next; and it is practically impossible to detect this failure in time to entirely prevent the loss of honey.

The bees do very little superseding of their own accord at this season of the year; in fact, practically none at all of the queens that are commencing to fail, but not yet entirely so. At least nine-tenths of the superseding in my apiary in northern Iowa was done in the months of July and August.

To aid me in getting at the real facts in this matter as well as in others, I have always kept a complete record of all my queens, and have practiced clipping their wings. This last enabled me to keep a correct record of each queen, without any guess-work.

I soon noticed that those colonies whose queen was in her fourth season nearly always gave me less than the average amount of honey, and enough less, too, to much more than pay for the expenses of having given them young queens the fall before, and allow largely for the value of such good queens as might be killed while doing so. I never killed all of my third-season queens, although I think it would have paid to do so; but I always kept a few of the best ones, so I have had both kinds of queens to compare results from many years.

A colony which is very strong at the commencement of the honey-flow, will store more honey according to its numbers than will a medium strong one, and only queens in prime vigor can get their colonies strong by the time white clover commences to yield; and even if old and yet good, they are rarely ever as vigorous as are younger ones; and my main reliance for surplus honey was always on those colonies having queens in their second or third seasons.

It is quite a long while from the time brood-rearing ceases in the fall and the first of July following; and any failure of the queen during this time, even if only partial, seriously diminishes the number of mature bees the hive will contain during the honey harvest, and no failure of a queen can take place during this time that can be noticed by the apiarist, soon enough to prevent a serious reduction of the amount of brood that will be raised in time for the harvest.

A much larger production of colonies having old queens will be weak in

the spring than of those having younger queens; and as re-queening can be done so much cheaper and better in the fall than in the spring, I prefer to do it then, even if half the queens I destroy would be good for yet another year.

Many of our best apiarists—Doolittle, Hutchinson, and others, recommend the contraction system during swarming; but all seem to agree that swarms having old queens seem much more inclined to build drone comb than do others.

In speaking of old qneens, I mean those that have done duty for three seasons, including the one in which they were reared. In rare cases I have known queens to do duty the fifth season; but a very large proportion will not do satisfactory work during their fourth season, a much larger proportion than many suppose is the case, unless they have specially observed this point for a number of years.

As already said, the question is one of relative profit and loss. On one hand we have the expense of the young queens, and the value of the few good queens that will be destroyed; on the other, we have the very material shrinkage of the honey crop, the probable loss of some colonies, etc., and there is no question in my mind that the last items exceed the first ones many times over.

Apartado 278, Havana, Cuba.

EXPERIMENTS.

A Report of Some Experiments in Apiculture.

Report to the Commissioner of Agriculture

BY N. W. M'LAIN.

The study of some forms of disease to which bees are subject, including an inquiry into the causes of disease, and the discovery and application of suitable remedies, has occupied much time, and the results from this line of investigation have been in a good degree successful and satisfactory.

The excellent classification and complete history which have been given of the micro-parasitical forms which affect the life and health of bees simplify diagnosis and facilitate the discovery and application of preventives and cures. Modern science has shown that it is often necessary to unlearn much of what was supposed to have passed beyond the region of doubt. The subject in hand furnishes no exception. It is not strange that there should be confusion and error in dealing with the origin and habits of these micro-organisms which baffle the skill of the investigator. We are now collecting and tabulating data and testing theories in the crucible of experience, and while our investigations are incomplete, and many seemingly determined facts lack full confirmation, and while significant manifestations await interpretation, we must be slow in reaching conclusions. We may indeed be in the region of the knowledge we seek after, but we must hold the evidence under survey until many-sided experience fully determines its value.

Bacillus Alvei (Cheshire).

This disease, commonly but inappropriately called foul brood, is indigenous in all parts of the United States, and is infectious and virulent to the last degree. Concerning the origin of *Bacillus* and other allied organisms, but little is certainly known, but that the organism classified as *Bacillus alvei* is the active agent in the destruction of both bees and brood is certain, for this agent is always present, and although its action in the living organism is exceedingly complicated it is also well defined.

The symptoms of this disease may be more clearly described by contrasting the appearance of bees' brood and combs in a healthy colony with the diagnostic symptoms attending *Bacillus alvei*. The bees act as if discontented and discouraged; the combs commonly present a dingy, neglected, and untidy appearance, and a characteristic odor is present, sometimes not noticeable until the hive-cover is removed, at other times offensive at some distance from the hive. This odor is very like that emitted from glue which has been prepared for use, then put aside and allowed to ferment. Instead of the plump, white, smooth appearance common to healthy uncapped larvæ, the membranes more or less wrinkled and shrunken, are streaked with yellow, which with the succeeding stages of the disease changes into a dingy, gray brown; then as putrefaction follows, the color becomes a dirty red brown. As evaporation progresses the mass settles to the lower side of the cell, and if the head of a pin be drawn through the mass, that which adheres appears quite stringy and elastic, the tracheæ and tougher tissues resisting decay adhering to the cell. Later nothing remains but a black, flat scale on the lower side near the bottom of the cell. If the disease does not assume the acute form before the pupa stage the brood is capped over, but the cell cap, commonly of a darker color than that covering a healthy brood, settles, leaving the cover concave instead of flat or convex, and shortly small holes appear, as if inquiry had been instituted to learn the condition of the occupant, or to liberate the gases and odor and facilitate evaporation. Torn and ragged cell caps are frequent, and some cells may be empty and cleansed; and in the midst of ragged and sunken caps a live bee may occasionally emerge.

The means by which these deadly agents are commonly introduced into the hive and into the bodies of their victims has not been certainly determined. Prof. Frank R. Cheshire, F.L.S., F.R.M.S., to whom we are indebted for the classification of this species of *Bacillus*, and also for much that is valuable concerning its life history and pathogenic character, speaking of the means of propagating this disease, says (see Bees and Bee-Keeping, vol. 2, pp. 157, 158, London. 1888):

"My strong opinion is, that commonly neither honey nor pollen carry the disease, but that the feet and antennæ of the bees usually do." "It is also extremely likely that spores are carried in the air and taken in by the indraft set up by the fanners. There will be no difficulty in this supposition when it is remembered that the organisms are so minute that a cubic inch of material would form a quadruple line of them from London to New York."

My own experience and observation is in agreement with this last proposition, as witness the following paragraph from my report of last year (see Report of U. S. Entomologist, 1886, p. 587):

"That the contagion may sometimes be borne from hive to hive by the wind appears to be true, as it was observed in one of the apiaries which I treated for this disease during the past summer, that of a large number of diseased colonies in the apiary, with the exception of 2 colonies, all were located to the northeast of the colony in which the disease first appeared. The prevailing wind had been from the southwest."

Mr. Cheshire says further, page as above: "The bee-keeper is unfortunately almost compelled to become himself a probable cause of infection. His hands, made adhesive by propolis, carry the spores or bacilli, and so may transfer them, even hours later, to healthy hives. The clothes should be kept as far as practicable from contact with suffering colonies, and the hands after manipulating them should be disinfected by washing with a weak solution of mercuric chloride (corrosive sublimate), ½ of an ounce in 1 gallon of water being quite strong enough."

The concluding paragraph under this heading in my report for 1886 is as follows:

"That the disease germs may be carried upon the clothing and hands appears probable, from the fact that in one neighborhood this disease appeared in only two apiaries, the owners of which had spent some time working among diseased colonies at some distance from home, while other apiarists in that locality who had kept away from the contagion had no trouble from foul brood."

It has been the common belief that honey is the medium through which the disease is most frequently introduced from both near at hand and remote sources of infection. That undue importance has been attached to honey as the common source of infection appears certain, for I have proved by repeated trials that if frames containing combs of capped honey, and having no cells containing pollen, be removed from infected hives and thoroughly sprayed or immersed, using an acid and alkaline solution of suitable strength to destroy the germs exposed to its action, the honey in such combs did not communicate disease when placed in healthy colonies and consumed by the bees as food for both summer and winter uses. I have found it altogether practicable to feed honey which had been extracted from the infested combs without boiling, always adding, however, as a precaution, a disinfectant suitable to destroy any infection possibly lurking in such food.

In speaking of honey as a means of carrying this contagion, Mr. Cheshire says: "I have searched most carefully in honey in contiguity with cells holding dead larvæ; have examined samples from stocks dying out with rottenness; inspected extracted honey from terribly diseased colonies, and yet in no instance have I found an active bacillus, and never have been able to be sure of discovering one in the spore condition, although it must be admitted that the problem has its microscopic difficulties, because the stains used to make the bacilli apparent attach themselves very strongly to all pollen grains and parts thereof, and somewhat interfere with examination. I have now discovered that it is impossible for bacilli to multiply in honey, because they cannot grow in any fluid having an acid reaction."

As to pollen being the medium by which this contagion is commonly introduced into the hive, not wishing to appear as speaking *ex cathedra*, I venture to say that further experiments in the line indicated in my report of last year, leave little room to doubt the accuracy of the opinion then formed, namely, that pollen is the medium by which this contagion is most commonly introduced, and most rapidly spread and persistently perpetuated. Continued observation showed that in those colonies where the largest quantity of pollen was being gathered, the disease quickly assumed the malignant form, even when the quantity of brood was not greater than that being reared in other colonies where but little pollen was being gathered, and in which the disease was far less virulent; and in this latter kind, where little pollen was being gathered, the contagion yielded most readily to treatment. But what seemed more to the point was, that from those colonies from which the combs containing pollen were removed, and a suitable substitute furnished in the hive, thus avoiding the necessity for bringing supplies from the fields, the disorder was cured, and the colony speedily regained their normal condition.

The fact that queen larvæ seldom die from this contagion, taken in connection with what we know to be true concerning the character of their food, is significant, namely, that it is wholly composed of digested material, pollen grains being rarely found therein, and then as if present by accident and not by design, seems to justify the conclusion that the absence of pollen accounts for the absence of bacilli; while on the contrary the food of worker larvæ, secreted in excessive quantity and deposited in haste, occasional grains of pollen being dropped, and no reason for their removal existing, the bacilli finding congenial cultures, multiply apace; and if perchance the larvæ escape infection, as is commonly the case until near the time of weaning, then live pollen being supplied, speedy and complete ruin results. Moreover, few if any bacilli are to be found in the chyle stomach of an adult queen at the head of a stricken colony, subsisted, as she must be, almost entirely upon secreted food produced by the worker bees; while in the chyle stomach of the worker, which partakes freely of pollen, they are present in quantity, and in fact line the whole intestinal tract.

The evidence presented in support of this pollen theory of the means of introducing and spreading this contagion is circumstantial, still it is component; and if it fails to reveal the true source of infection, the fact that the consumption of such live pollen as is obtained from the fields during the prevalence of this disease, or such old pollen as is stored in cells in which it may have molded or rotted, and become a possible source of infection, aggravates the disease and makes it more persistent, and the fact that if the old pollen be removed from the hive, and artificial pollen be substituted, the malignant and persistent characteristics disappear, and that the contagion then readily yields to suitable treatment, is settled beyond question.

While it is true that queen-bees have less to fear from infection in the larval stage, it is also true that queens reared in infested colonies are commonly worthless. Of 25 queens so reared in one apiary, and successfully established at the head of as many colonies, not one survived the period of hibernation. In case the contagion does not assume the acute form in the larvæ it may localize and become chronic, and so, the bacillus of disease being as unnatural as disease itself, both worker and queen may live on for weeks and months, and the queen, with both life and death within her, transmitting the possibilities of both. Mr. Cheshire has counted as many as nine bacilli in a single egg, a discovery full of significance when striving to account for the spread of the disease. It is but natural that this contagion, being a disease of the blood, should find congenial and luxuriant feeding-ground among the most delicate and highly organized glands and tubes of the ovaries.

We reason thus: The bee-pap furnished to the queen larva, the protoplastic egg-food, copiously furnished to the queen during the breeding season, is continuous, and passes from cell to cell. The germ cell of bacillus contributed to the organism of the queen in larval or in egg-food, borne along through the digestive and circulatory system, passes within the ovarian tubes and from thence into the nascent egg-cell, and once within the yolk is ready to contend for supremacy against the spermatozoid soon to be introduced. But the strife is unequal, and instead of the differentiating principle determining the form, function, and instinct of a new creature appointed to long life and service, the bacillus, finding the environment suited to multiplication, sterilizes the blood and riddles the tissues and viscera.

The remedy which I have found to be a specific—by the use of which I have cured hundreds of cases, many of which seemed hopelessly incurable, without failure, and without a return of the contagion, except in the case of two colonies of black bees, where the disease reappeared in a form so mild that each colony was speedily cured, each one casting a swarm, and storing a fair amount of surplus honey—is prepared and applied substantially as directed in my last annual report.

In 3 pints of warm soft water dissolve 1 pint of dairy salt. Add 1 pint of water, boiling hot, in which has been dissolved 4 table-poonsfuls of

bicarbonate of soda. Dissolve ¼ of an ounce of pure salicylic acid (the crystal) in 1 ounce of alcohol. Add this to the salt and soda mixture, then raise the temperature near to the boiling point, and stir thoroughly while adding honey or syrup sufficient to make the mixture quite sweet, but not enough to perceptibly thicken, and leave standing for two or three hours, when it is ready for use. An earthen vessel is best. I have tried other acids and alkalies in other forms, but the remedy prepared as directed and applied warm is that which I prefer.

Treatment of Bacillus Alvei.

Upon removing the cover from the hive, thoroughly dampen the tops of the frames, and as many bees as are exposed by blowing a copious spray of the mixture from a large atomizer. Beginning with the outside, lift a frame from the hive and throw a copious spray over the adhering bees on both sides of the comb, shake off part of the bees into the hive, and spray those remaining; then shake and brush these into the hive; then blow a copious spray of the warm mixture over and into the cells on both sides of the combs sufficient to perceptibly dampen both comb and frame. In like manner treat all the frames, seriatim, returning them to the hive in order. From combs containing very much pollen, the honey should be extracted and the combs melted into wax. This extracted honey may be fed with safety, 2½ ounces of the remedy being added and well stirred into each quart of water.

All the colonies in the apiary should be given a thorough spraying the first time the treatment is applied, but combs containing pollen need not be removed from healthy colonies. After the first thorough treatment the combs and bees should be thoroughly sprayed with the remedy at intervals of two or three days until cured. Three treatments after the first thorough application are commonly sufficient; first one frame being lifted from the hive and sprayed, and the others simply set apart, so that the spray may be well directed over and copiously applied to both bees and combs. An essential feature in my method of treatment, which I failed to make duly significant and prominent in my last annual report, is that medicated honey or sugar syrup should be continuously fed to all infected colonies while they are convalescing, for not only must the contagion be driven from the organism of the adult bee, and suitable food and tonic given to aid in repairing the ravages of disease, but a constant and even supply of the remedy serves as a preventive and cure for the diseased larvæ.

The honey or syrup should be fed warm, and 2 ounces of the remedy should be well mixed in each quart of food, which may be given in feeders, or by pouring over and into empty combs, and placing these in the hive.

To prevent the bees from going abroad for supplies, make a thin paste of rye flour and bone flour, three parts of the former to one of the latter, adding the medicated honey or syrup. Spread this over a small area of old comb and honey in the hive, or feed in shallow pans or wooden butter dishes in the top of the hive or outside in the apiary, under shelter from rain. I prepare the bone flour by burning dry bones to a white ash. The softest and whitest pieces I grind to dust in a mortar, and sift through a very fine sieve made of fine wire-strainer cloth. The coarser pieces of burned bone I put in open vessels with lumps of rock salt, which I keep half covered with sweetened water, and sheltered from the rain, at all times accessible to the bees. The rapidity with which depleted colonies recuperate and become populous is surprising. I have tried supplying the saline, alkaline, and phosphate elements in bee-food by using boracic acid, phosphoric acid, etc., but I find that the bees take kindly to the supplies prepared as I have directed, and the amount consumed shows their appreciation and need. Such supplies of food and drink should be kept at all times in the apiary, easy of access. I have not found disinfecting of the hives necessary further than to simply dampen the inside with a copious spray of the remedy, and sometimes no care was taken to do even this.

BEE-HIVES.

The New Heddon Hive Considered and Criticised.

Written for the American Bee Journal

BY DR. G. L. TINKER.

In the controversy with Mr. Heddon I have had no ill-will towards him, nor cause for it. My course has been prompted wholly by a desire to forewarn the public against a recognized wrong. Mr. Heddon charges that I have done him an "injury." In reply, I will say, that it is better that he should suffer injury than that the bee-keepers of America should do so by the introduction of such a hive.

Mr. Heddon devoted a chapter in his book, "Success in Bee-Culture," to the claims for his new hive, alleging that he had used it two years, and that it had been fully tested by himself and "students."

The "new principles" set forth were new indeed, and would no doubt have caused a revolution in bee-culture had they proved in practice what they were represented to be. But they did not so prove, and it now remains to be seen if they were not wholly theoretical from the beginning. They were captivating and plausible, and bee-keepers generally accepted them as established facts on Mr. Heddon's statements.

The feature above all others, that was heralded in advance of the issue of his book, was the alleged fact that we could "handle hives" if rightly constructed, instead of many frames in all needful work in an apiary. It was confessed at the outset that it would cost about twice as much as other hives, but the advantages were such that the extra cost was a small item in summing up results, for "success in bee-culture" was over assured to every bee-keeper!

Many bought rights, and many more bought hives with genuine Yankee enthusiasm. Mr. Heddon says over 500 got the hives. At last it appeared that the hive was not what it had been represented to be, that it was in fact a fraud. Then reports were called for, but only 58 bee-keepers out of the 500 made favorable reports. Over 400 were silent as a tomb! Had the hive been the great success it had been represented to be, can any one believe for a moment that all these men would have remained silent?

The hive must stand or fall on the claims that have been made for it. First, Mr. Heddon's new super is not a success. If it was, we would find that all who use his divisible brood-chamber also using his new super. But all do not. A large number of bee-keepers use and prefer Mr. Heddon's old super on his new hive. That "settles the merits" of the new super.

There remains only his divisible brood-chamber to be considered, and every bee-keeper must now see that it is a failure, if it cannot be handled as represented; for if it cannot be, why handle 16 brood-frames when 8 can be handled just as quickly, and answer the same purpose; why be to the extra cost? It was claimed to be an easy task to shake out the bees and queens from the cases, discover queen-cells, etc. But the bees and queens cannot be shaken out as represented. It can neither be done readily nor easily, and if it could be, we are often unable to see all the queen-cells, as I have found in many instances. As well try to shake the bees out of a case of sections. It can be done, but it is a laborious undertaking.

One of the 58 men who reported favorably on the hive, who lives not

far from here, and obtained his hives direct from Mr. Heddon, recently made a thorough test of the "shake out function" of the hive. Aided by another expert bee-keeper who had charge of the hives the attempt was made to shake out the bees and queens from several hives without success. The attempt was also made to drive the queens down on the bottom-board with smoke with no better success. One colony of hybrids were so enraged by the shaking, that the apiarists were driven out of the apiary. At last, our friend, unable to find a queen, or to shake out the bees, gave up the experiment in disgust, and declared that the would transfer the bees to other hives.

The experience of these gentlemen is the same as my own, that the "shake out function" is a humbug. Add to this the difficulty from brace-combs, and the divisible brood-chamber has not a thing to recommend it. It becomes at once a complicated, expensive and worthless contrivance.

But Mr. Heddon claims that I have not used *his* hive, but instead a modified one, and not a divisible brood-chamber at all. Let us see about that. The idea was given out by Mr. Heddon that there was no need of handling brood-frames, but instead, hives. I would make the most of this valuable (?) function of the new hive. So I made it the exact capacity of the eight-frame Langstroth hive. The cases were made very light, of $\frac{3}{8}$-inch stuff, and the frames $\frac{1}{2}$ an inch more shallow than Mr. Heddon's. Besides, to make sure of the "shake out function" the top and bottom bars were made only $\frac{3}{4}$ of an inch wide. These cases were illustrated in *Gleanings*. But after all my care in the matter, and numerous trials, I found the "shake out function" to be impracticable to a man of ordinary strength and endurance, even with my little cases.

Mr. Heddon is fond of alluding to what he is pleased to call my "mistakes." But my mistakes, if I have made any, are trivial indeed as compared with the grand mistakes of Mr. Heddon in his unfortunate hive theories. It is human to err, but I must object to one of the most signal failures in the history of apiculture being paraded before the public under the false guise of "success." Charging me with mistakes will not blind the public to the fact that the principle of his new hive is wrong, and that his theories regarding it are highly deceptive and misleading.

In conclusion I must observe, that Mr. Heddon has made no improvements in bee-hives as alleged; at least not in the so-called new hive. The Heddon-Langstroth hive with the Heddon-More super have met with favor, but as an "original inventor" we shall hope that our friend may yet distinguish himself.

New Philadelphia, Ohio.

[It is difficult to find the right place to stop a discussion when once begun. We thought we had terminated the controversy about the merits of the Heddon hive some months ago, but some persons imagined that an injustice was done to Dr. Tinker in stopping it there, and we now admit the above just to show that no injustice was intended. As the essay of Dr. Tinker's opened the "ball," if Mr. Heddon desires to make a short reply, that will positively close the discussion in our columns. We hope this will satisfy all the friends of both parties, While many are tired of the discussion and desire to see it terminated, we will not give either side the advantage.—ED.]

WINGS CLIPPED.

Thoughtlessly Clipping Wings of a Virgin Queen.

Written for the American Bee Journal
BY JOHN CADWALLADER.

On June 14 a swarm was cast by a colony having a queen with her wings clipped, which was properly hived. To my knowledge none has issued from that hive, until to-day one came forth. While they were issuing I discovered the queen in the grass in front of the hive. I captured her, and before reflecting I clipped her wings. 1. Is it likely that she is a virgin queen? 2. As she cannot take wing, will she ever become fertile?

On May 27, I was examining a colony which I had known to be strong, and finding no eggs, but an abundance of brood and numerous queen-cells, I concluded that the colony had suddenly become queenless. So on the following morning I began to cut out a lot of the queen-cells which were chiefly in one frame. As fast as the cells were taken they were placed in a wooden butter-dish. When I had finished, the comb had been so weakened by the removal of the queen-cells, that it broke loose from the frame. I at once began to repair this, but before I had finished it, the queen-cells in the butter-dish began to hatch, and the queens to crawl away. I hurriedly caught and caged six, but two got away; one I afterward found dead under the hive with a lot of bees around her, trying to bring her to life.

I then fixed some nuclei in which to place this flock of queens, which were threatening to cut their way out of the cages. The hive had been smoked and all broken up for an hour. It was about 11 o'clock. I had in the meantime hived a first swarm which had issued with a wing-clipped queen, when the swarming note was again heard by a swarm issuing from this hive which had been smoked and broken up for an hour, which had yielded me six bright queens, and the two which "got away." This swarm was hived, and both it and the parent colony have had laying queens for several weeks. I therefore concluded that the parent colony had become queenless by having cast a swarm (the queen's wing not being clipped) unknown to me, which absconded.

There seems to be little prospect for white clover. Basswood is in bloom, alive with bees, but honey is not coming in as it did from fruit-bloom, poplar, and probably honey-dew. So far all the honey stored is of a dark color and bitter taste.

North Vernon, Ind., June 30, 1888.

[It is very likely that the queen you found in the grass was a virgin, and if so, in clipping her wings you destroyed her usefulness by preventing her from flying and becoming fertilized.—ED.]

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Aug. 3.—Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

No White Clover Honey.—Geo. W. Fair, Chrisman, Ills., on July 9, 1888, says:

I wintered 32 out of 34 colonies of bees, coming through in splendid condition, and are now boiling over with bees; but they have not gathered a pound of surplus honey, and there is no prospect of any soon. This is a good locality for white clover honey, but it is a complete failure this year. What is in bloom seems to afford little if any honey.

Measuring Comb Surface.—J. H. Weidman, Riverside, N. J., on July 6, 1888, writes:

In answer to the editor's remarks on page 419, I would state that I discovered the grievous error soon after I had sent the article in question, but not in time to prevent its appearance in print. But I was in the wrong only in calculating the number of cells to the square inch of comb surface, for the fact remains that a square inch of comb (which means a square inch of comb surface, as square measure is surface measure, and cannot be anything else), contains 27 cells, and that a frame 10¾x10¾ will contain 230 square inches of comb, or of comb surface; and by taking 27 cells to the square inch, we get the true capacity of the frame, 6,210 cells. Now I claim that this is the only proper method of calculating the capacity of comb in a hive, and my remarks in my previous article apply to this matter, with the exception of the error already noticed.

[The error of Mr. Weidman has been corrected several times by others, and now by himself. This will dispose of the matter at present. The error was very apparent at first sight.—ED.]

Supporting a Good Cause.—T. H. Kloer, Terre Haute, Ind., on July 9, 1888, writes:

My bees have not produced one ounce of honey, and have not a day's supply in the hives now. They are weak, having lost half the old bees and all the brood by starvation between June 10 and June 20. There was no white clover, and linden furnished only a living. Although I am heavily involved, and in great financial distress, I enclose $1 00 as my annual dues to the Bee-Keepers' Union, so as to hold up the good cause.

Pleurisy-Root and Buckwheat Honey.—Jacob N. Becker, Oakfield Centre, Mich., on July 8, 1888, says:

Bees are not doing much in this locality. White clover was plentiful, and is gone, but there was no honey in it. The bees just gathered enough to keep up brood-rearing. I have 120 colonies, and they are over-running with bees, but not one swarm has issued. They are gathering some honey from pleurisy-root and milk-weed at present. Basswood is budded for bloom, and there are 100 acres of buckwheat sowed within bee-range of my apiary. I shall look for some honey from that source.

Managing Swarms, etc.—T. M. Herrick, Woodstock, N. Y., on June 30, 1888, writes:

The last winter was the hardest here that we have had in many years, fully 20 per cent. of all the bees having died, and the spring was backward and cold. I put 32 colonies into the cellar, and left 25 on the summer stands. I lost in all 17 colonies; but things are booming now. Honey from clover and vervain is coming in as fast as I ever saw it. I have had 22 swarms, and all is going well.

I handle swarms in the following manner: First, it is best to get 8 frames of brood in the colony, or as near it as possible before swarming, then when the swarm issues, I take out two-thirds of the brood, and all the bees that are on the frames, and put into another hive, taking all the queen-cells; or, if there are cells on all the frames, I take the best and destroy the others. Now if there is number of them, I cut them all out but one (leaving the best one), and put them in a cell-hatcher, inserted in one of the colonies that has cast a swarm. As Italians are apt to swarm without matured queen-cells, I am always ready with matured cells or virgin queens to give the old colony as soon as they have cast a swarm.

The way I put cells into the hive is as follows: With my finger I scratch the comb down to the division wall, a spot a little larger than the cell, and stick a pin through the fringe of comb at the top of the cell, and through the comb in the frame, so that the cell hangs into the place I have scratched out; they will soon fasten it so that the pin may be removed, and leave the cell fast. I leave four frames with the swarms that I work for comb honey, using starters 2 inches wide, if they have not frames enough of brood to leave 4, after taking away ⅜. I use a frame 10½x17½ inches.

Overstocking a Locality.—G. A. Adams, Perrysburgh, O., on July 10, 1888, writes:

A few of us began keeping bees here in 1885, but there were not many colonies kept. When we began, Mr. Puhl, of Momence, was the only extensive bee-keeper in the vicinity. Since then, a Toledo man has planted an apiary within 10 rods of my farm, and last year his 200 colonies took all of my fall pasturage. They have taken all my raspberry honey this spring. My bees have no chance against such numbers. This spring 40 colonies of this apiary were taken one mile south of mine. The other is 1½ miles east. I live in the town, and the bee-keepers are thus surrounded by the apiaries of this man, who does not own a foot of land in the county. He will kill bee-keeping in this neighborhood. I can get along with ignorance by teaching, but how am I to fight greed? Can the Bee-Keepers' Union devise any method? We small bee-keepers in Perrysburgh would be rejoiced if a remedy could be provided.

[That is a hard matter to adjust. Dr. C. C. Miller is the man to grapple with questions of territorial right to the nectar in the flowers; and he may have something to suggest on the matter. We should think, however, that the intruder would see that he was overstocking the locality even for his own bees, and remove the bees further away. For one thing is certain, if your bees can get nothing, his are in the same condition, for if the nectar was there they would all get a share of it.—ED.]

Strong Colonies and Drowned Bees.—Chas. H. Wiele, Stoddard, Wis., on July 5, 1888, writes:

This has been the hardest spring on bees here, that I have witnessed in the last 27 years. I put them out of the cellar on April 13, with the loss of but one colony out of 80. Two swarmed out the same day, it being pretty warm. They almost immediately began to work and carry pollen, and were strong and lively, but it did not last very long; wet and chilly weather set in, and then it could not be called "spring dwindling" any more, but "spring killing." They would fly over on the islands of the Mississippi, and the water being high, they would drop right into it in returning, and drown by the thousands. A person could just dip them up by the handfuls along the bank. Of course the colonies became so weakened that I expected to lose the most of them; I had to double up 26, and the rest pulled through well enough. It was well that we had good, warm weather during plum and apple blooming (of which trees I have several hundred), and so the bees became strong again, and are all in good condition now.

Clover did not yield much honey, or rather none, and linden will commence to bloom in a few days; if no honey comes in then, there will be poor prospects for honey in this neighborhood, because the islands are still covered with water, and the fall flowers will have little chance to grow and to bloom before frost. I had about 3,000 pounds of comb honey last year, and I shall be satisfied if I get half that amount this year. Still we cannot tell, and have to hope for the best.

Fine Harvest Expected—Hiving Swarms.—E. T. Smith, Bowling Green, Mo., on July 9, 1888, writes:

White clover has bloomed but little here, but the fields are now covered with young clover, just beginning to bloom, and I am expecting a fine honey harvest. My colonies are building up, and are beginning to be very strong, the honey-flow being sufficient to encourage increase, but not sufficient for surplus. I started in the spring with 8 colonies, and I now have 16. In hiving swarms I adopted the Heddon method in part, to prevent increase; that is, I move the old stand and put the new one in its place. The result has been, that I have had only one swarm from each of those colonies. I allowed one old colony to remain, and hived the swarm in a new place, and that colony swarmed three times. In hiving my swarms, I went contrary to Mr. Hutchinson's advice, given in his little book—that is, I hived them on combs, left from the previous year, and I have never seen colonies build up faster. I am satisfied that Mr. Hutchinson is right, and the result would have been as he says, if the honey-flow had been good, but with such a season as this has been, I think that the empty combs are a great help. Our season is excellent, and crops of all kinds are very fine.

Alsike Clover on Dry Land.—Eugene Secor, Forest City, Iowa, on July 4, 1888, writes:

I have sowed Alsike clover seed a couple of times within the last ten years. On dry land I fear this is not going to prove a very profitable crop for either hay or pasture. It does not *stick* like common white clover, and does not grow large enough to take the place of red clover. But a couple of my neighbors sowed Alsike on *wet* land a year ago in early spring; the land was such as produces only wire grass. Open ditches had been cut the year previous, taking off all the standing water. On this kind of land they tell me it is a success—standing up in the wild grass 15 to 20 inches high, and growing luxuriantly.

Working on the Linden, etc.—S. Burton, Eureka, Ills., on July 5, 1888, writes:

I notice on page 444, Mrs. J. B. Curlee says that the Chapman honey plant will be in bloom in a few days; that it is 4 feet high, and has large balls on it, looking like the wild thistle. It is not like mine. My plants are from 5 to 7 feet high, with balls on them, and has no resemblance to the wild thistle. There are from 30 to 50 balls on a stalk. It began to bloom on July 1. The bees are busy on it all the time. I have had 14 swarms up to this date. The linden is in bloom now, and the bees have had a lively time for the last two days. The white clover is not coming on as fast as I expected it would, but we had a good rain last night which will help it out now.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages).....$1 00
" 100 colonies (220 pages)..... 1 25
" 200 colonies (420 pages)..... 1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2 25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.
HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote. White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.
June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 14c.—Dull.
BEESWAX.—23@24c.
June 14. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—We get 15c. per lb. in a small way for best comb, and less for off grades. Extracted, best white, 7@8c. None of the new crop received yet, but there is more than sufficient of the old crop for the light demand.
BEESWAX.—22c.
Jun. 30. R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@65c. per gallon.
BEESWAX—Dull at 23½@24c.
Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—No white clover left in this market. Dark slow sale at 8@10c. Extracted ready sale on arrival. New crop will meet with good demand.
BEESWAX.—23c.
July 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
July 11. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 14@16c.; 2-lbs., 13@14c.; 3-lbs., 12@13c. Extracted, white in kegs and ½-barrels, 8@8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 6@6½c. Demand good for extracted, but dull for comb.
BEESWAX.—22@25c.
July 2. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@ 3c.
Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice new 1-lb. sections in good demand at 15@16c., not glassed; dark ones not searched; 2-lbs and extracted there is no demand for. Stock of old honey is light, and the sections are all glassed, which style the trade do not like.
BEESWAX.—None in market.
Jun. 30. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON

HONEY.—We quote: 1-lb. sections, 14@16c.; 2-lb. sections, 12@13c. New Florida extracted, 8@9c. Sales are very dull.
BEESWAX.—25 cts. per lb.
July 5. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Choice new extracted, 5 to 5½c.; amber to light amber, 4½@4¾c. Choice comb in 1-lb. sections, 13@14c.; 2-lbs., 12@13c. Arrivals are small, as apiarists are holding back. Prices are considered high.
BEESWAX.—18@22c.
Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.
June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, bright, 5@5½c.; dark, 4½@5c.; in cans, 7@8c. Comb, choice white clover, in prime order, 13½@15c.; dark, less. Market quiet with fair demand for extracted.
BEESWAX.—22c. for prime.
Jun. 27. D. G. TUTT & CO., Commercial St.

Frank Leslie's Sunday Magazine for August continues Geo. Macdonald's fine story "The Elect Lady," and begins a new story, the scene laid in Old France, entitled, "Genevieve or The Children of Port Royal." There is also a short story by Amanda M. Douglas, entitled "Miss Brooke's Adventure." An illustrated article, "Glimpses of Mission Life Among the Maories," tells of early missionary struggles in New Zealand. "Pen and Pencil Sketches of Shadeland," depicts a charming spot in our own country, and an elaborately illustrated article on "La Fontaine's Fables" tells us much about the French fabulist and his work. There are many interesting short articles and beautiful illustrations. It concludes with a fine hymn tune, "We Give Immortal Praise," by Frank L. Sealy, of Newark, N. J.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Advertisements.

FOR SALE—600 Colonies in the movable-comb hives, at $4.00 for Italians, and $ 0.00 for Hybrids.
25A13t **G. H. ADAMS**, Troy, N. Y.
Mention the American Bee Journal.

HOW TO RAISE COMB HONEY,

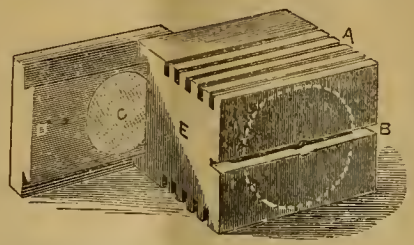
PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the lb., and Supplies OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.
Mention the American Bee Journal.

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **Price, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.
Mention the American Bee Journal.

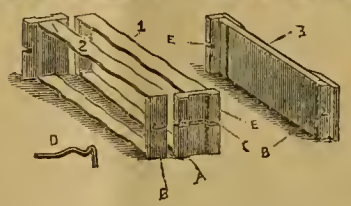
Queen Shipping-Cages.



WE have a lot of Queen-Cages, like the one illustrated, not provisioned, which we will sell **3 for a dime**, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

COBB'S
Divisible, Interchangeable, Reversible
HONEY-CASE.



(Patented Dec. 20, 1887.)

FOR descriptive circular and price-list, Address, **THOS. M. COBB**, Patentee,
29Alt Box 194, GRAND RAPIDS, MICH.
Mention the American Bee Journal.

VICTOR

SAFE.

DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.

We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with suh-treasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,.... CHICAGO, ILLS.

BEE-KEEPERS' SUPPLIES.

HIVES, Sections, Foundation, Smokers, Frames, Crates, &c., furnished at greatly reduced rates. Also **ITALIAN BEES and QUEENS** at very low prices. Send for my Catalogue. Address,

A. F. STAUFFER,
29Ctf STERLING, ILLINOIS.
Mention the American Bee Journal.

FEEDING-BACK.

THERE was probably never before gathered together so much reliable information upon the above subject as is to be found in

THE BEE-KEEPER'S REVIEW

for July. If you have, or expect to have, unfinished sections, read this Number. If you have failed to make a success of "feeding-back," its perusal may show you where you made your mistake. The August issue will be a "Fair Number."

Price of the REVIEW, 50 cents a year. Samples free. Back Numbers can be furnished.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S or Canadian.

Address, **W. Z. HUTCHINSON,**
29Dtf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

GLASS PAILS
FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.

Prices are as follows:

To hold 1 pound of honey, per dozen, ... **$1.60**
" 2 pounds " " **2.00**
" 3 " " " **2.50**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.
Mention the American Bee Journal.

HEDDON HIVES FOR SALE.

I **HAVE** a hundred, all complete—just finished. Purchaser given right to use them, by Mr. Heddon. Will sell at $3.00 each, in lots of 10 or more. Inquire of,

27Atf **E. D. KEENEY**, Arcade, N. Y.
Mention the American Bee Journal.

HANDSOME
ONE-PIECE SECTIONS.

WE have a limited quantity of One-Pound Sections, 4⅛x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

ITALIAN QUEENS—Untested, 75c. each; 6 for $4.00; 12 for $7.50. Address,
26Atf John Nebel & Son, High Hill, Mo.
Mention the American Bee Journal.

75 COLONIES of Italian and Hybrid Bees for sale, or trade for land; in A. I. Root's Simplicity hives, 10 frame, L. F. Nearly all wired, and nice straight combs. Everything on the most improved modern principles. I am changing climate for my health, is the reason for my selling.
28A2t **E. SANDFORD**, NOKOMIS, ILLS.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. July 25, 1888. No. 30.

EDITORIAL BUZZINGS.

Only a Little, modest flower,
But the bee, that busy rover,
Gathers many a store of sweets
From the modest, wee white clover.

And so, in the quiet walks of life,
Sometimes a song is given,
Only a strain that our ears have caught
Of the melodies sung in heaven.

—*Maude Meredith, in Vick's Mag.*

The Territorial Fair of south Dakota will be held at Mitchell, on Sept. 24 to 28, 1888. Charles Keith, of Volga, is the superintendent of the Apiary Department. Thirty dollars are offered in premiums.

Comb Honey keeps best in a warm, dry room—the temperature should not go below 80°, and a little warmer would be even better. The whiteness of the comb would be better preserved in a dark room. The honey will "gather moisture" when the temperature goes below 60°.

Capt. J. E. Hetherington is represented by an engraving in the Norwegian bee-paper, *Tidsskrift Biskjotsel*, for July. Mr. Ivar S. Young, the editor, was entertained by the Captain at his residence in Cherry Valley, N. Y., when he visited America last year. Capt. Hetherington is the most extensive apiarist in America, as well as a genial companion and friend.

Justice for Bee-Keepers.—W. H. Shirley, Millgrove, Mich., on July 12, 1888, writes thus when sending his dues to the National Bee-Keepers' Union:

While the prospect here is that I shall not get one dollar's worth of honey from my bees this season, yet, when I see what people will do for spite or jealousy, I gladly give the $1.00 to the National Bee-Keepers' Union for justice, which will "ever come uppermost."

The Annuity.—Concerning the proposed annuity of Father Langstroth, Dr. C. C. Miller, of Marengo, Ills., on July 13, 1888, wrote us as follows:

FRIEND NEWMAN:—I enclose a letter from "Amateur Expert," which explains itself. I am confident that American bee-keepers, as a rule, will be only too glad of any interest that the British apiarists may take in "Father Langstroth," who belongs not to us alone, but to the bee-keepers of the world. Yours truly, C. C. MILLER.

The letter from our English friend, who signs himself as "Amateur Expert," is as follows:

HERTS, England, June 19, 1888.

DR. MILLER.—*Dear Sir:*—You will have seen in the columns of the *British Bee Journal* what a letter of mine to the Editor, on behalf of "Father Langstroth" has led to, amongst British bee-keepers. Sufficient time has not yet transpired for my appeal to be commented on in the States, and for those comments to have reached us on this side. The last of your bee-papers to hand is the AMERICAN BEE JOURNAL of June 6, which came yesterday. I am writing you in this matter, as I find you have the matter in hand, and several on this side are slow to subscribe, as they say, judging from past experiences, the movement is liable to give offence to Americans. The collection made for the poet Whitman, they quote as a case in point.

I venture to think there is sufficient fraternity amongst bee-men to enable us all to unite in helping our friend Langstroth, considering the man and the circumstances, without our for one moment offending the dignity of Americans. We are nothing if not proud, but I trust our pride is not of that false kind that would not allow us to accept the co-operation of Americans in any work of philanthropy we may undertake, and I am sure I can count on Americans for a similar feeling.

Should such an expression arise on your side, I am sure I can count on you to rightly express our feelings about it, but for myself I confess I have no such fears, my experiences of Americans lead me to give them credit for better things. I trust you will get a good round sum for our old friend, and that many will remember the injunction, "To do good and to communicate forget not, for——. Believe me to be,

Yours very sincerely,
"AMATEUR EXPERT."

Let none of our English friends think for a moment that American apiarists are so vain and foolish. We rejoice in the hearty co-operation expressed by "Amateur Expert," for Father Langstroth belongs not to America alone, but to the bee-keeping world, as Dr. Miller so nobly expressed it—like Huber and Dzierzon.

Our English cotemporary, the *Bee-Keepers' Record* for July, contains the following editorial remarks from Mr. W. B. Carr, on the same subject:

We draw attention to the fact that an effort is just now being made among British bee-keepers to supplement the fund in course of collection in America for the benefit of the Rev. L. L. Langstroth, to whom apiculture is indebted perhaps more than to any man living. He it was who first demonstrated the fact that bees would build a comb within a given rectangle inside a bee-hive without attaching the frame either to the hive sides or floor board. Here lies the basis whereon all our modern improvements are built; and "Father Langstroth," as he is affectionally known in America, to whom we thus as bee-keepers owe so much, is, we are sorry to learn, none too well provided with the worldly comforts which should accompany the declining years of a well spent and useful life. Owing to his advanced age, and some affliction in the form of a "head trouble," the reverend gentleman has, for some years past, been compelled to relinquish his clerical duties, while, chiefly as we believe owing to his unrequited labors in the cause of apiculture, his pecuniary circumstances are known to be such as will render a generous public appreciation of his work very acceptable. Had "Father Langstroth" been less unselfish in his labors, there would have been less need for the present effort.

As it is, there *is* need for it, and we trust our readers will not ignore the fact. Something has been said — and well said — in our cotemporary, the *British Bee Journal*, on the need for bee-keepers this side of the Atlantic aiding their American brethren in the good work of which we speak. We, however, prefer to place it before the readers of the *Record* in a very matter-of-fact way, and earnestly hope our appeal may be responded to. It is less to the few who are able and willing to give their five guineas, or even their one guinea, as to the great bulk of bee-keepers gentle and simple who will read these lines. Nothing would be more gratifying to us, as editors of the *Record*, than to receive even a single shilling from every one of its readers, in aid of the Langstroth Fund. It would enable us to hand over a very handsome addition from this country to the sum being raised, and it would confer on all contributors the privilege of lending a helping hand in a very worthy effort for the benefit of a worthy Christian gentleman.

(Donations may be sent either to W. Broughton Carr, Higher Bebington, Cheshire, or to W. Raitt, Blaigowrie, Perthshire.)

We are only too glad to see that Father Langstroth is appreciated by English apiarists, and that they are willing to honor him as one of the greatest living lights in the apicultural world.

Queen Bees can now be sent by mail to Canada. The following letter from N. M. Bell, Esq., Superintendent of Foreign Mails, to Dr. S. W. Morrison, Oxford, Pa., shows that the Canadian Postal Department decided on July 10, 1888, to receive queen-bees and their attendants in the mails from the United States. Thus ends another annoyance to which American queen-breeders have been subjected, and one which came at the time when the interruption was the most annoying—just at the shipping season! Here is the letter:

WASHINGTON, D. C., July 14, 1888.

Sir:—Referring to my letter No. 82,033, of the 7th instant, in reply to yours of the 6th, I have to inform you that, under date of the 10th instant, the Canada office has advised this Department that it assents to the proposition that packages of queen-bees and their attendant bees shall be admitted to the mails exchanged between the United States and Canada, when so put up as to prevent injury to those handling mails, while at the same time allowing an easy verification of the nature of the contents.

Pursuant to this notice, United States postmasters have been instructed that, for the future, packages of bees are entitled to be forwarded by mail to Canada at the same postage rate, and under the same conditions as would apply to them if they were addressed for delivery in this country. I am, very respectfully, your obedient servant,

NICHOLAS M. BELL,
Superintendent Foreign Mails.

GLEANS OF NEWS.

The Scientific Pleasantry.

Referring to our comments on his letter published on page 388, Prof. H. W. Wiley has sent us the following apologetic and explanatory, though ill-tempered, reply:

Dear Sir:—Often, men who indulge in language more becoming a fish-market than the columns of a reputable journal, have a sense of fair play, and therefore I may hope you will allow me a word in reply to the intemperate vituperation contained in the issue of the BEE JOURNAL of June 13.

You may excite the prejudices of unsuspecting readers when you call me a "wilful liar," and so distinguished a scientist as Dr. Shippen Wallace, a "so-called professor;" and you may gain an ephemeral notoriety, when you slander the veracity of Dr. E. J. Hallock—a man of unblemished reputation, a scientist of the highest promise, whose death too early deprived chemistry of one of its most promising students.

We used STRONG language because the Professor had taken no notice of the *soft* and *mild* words which we had used previously. Our object was to cause him to forsake his dignified silence, and either to defend his "scientific pleasantry," or to own up to its falsity. But we deny that we indulged in any language other than might be read in the most refined and delicate society. The Professor continues:

In regard to the matter in question, viz., the fabrication of artificial comb—there is only one opinion among informed men. Such comb is used, whether as you say made of purified beeswax or other materials, you will be informed in due time. That a wholly artificial comb had been made, Dr. Hallock was fully assured. As I said in my letter to Mr. Evans, he may have been misinformed. He was not a "wilful liar." Neither he nor I supposed at that time that such comb could be made commercially successful. Perhaps the day may come, when by improvements in machinery it can be made so. Of the probability of this, I will make no certain prophecy. It would have been better had I added to my article in the *Popular Science Monthly* such a limitation as mentioned above.

My statement in the *Popular Science Monthly* was not a "wilful lie," but rested on authority as reliable as could be had. The fact that I did not believe it to be commercially practicable had nothing whatever to do with the veracity of the statement. If you are at all disposed to be just and honorable yourself (which your language would lead me to doubt), you will be able to see the mistake into which you have fallen.

When "comb foundation" was first introduced it was inappropriately called artificial comb by some, and now the Professor is inclined to try to extricate himself on that article upon which he says, "there is only one opinion among informed men—such comb is used." Very true; it is, but it is made of pure beeswax, and some are now making the cells ½-inch deep for the bees to fill with honey, but that is quite another thing from the charge made in the "scientific pleasantry!" *That* article was said to be "entirely free from bee-mediation—the comb is made of paraffine, and filled with glucose, by appropriate machinery!" The Professor cannot get away on such a flimsy excuse as that! We will adopt the language of the astute Professor himself: "*If you are at all disposed to be just and honorable* (which your language would lead me to doubt), you will be able to see the mistake into which you have fallen." If the Professor's prescription is good for anything, that dose ought to relieve him! The Professor now tries a *new dodge* in this manner:

You may think you deceive the public in your ill-advised and I fear ill-meaning endeavors to cover up the enormous adulteration of honey which is now practiced. I have labored earnestly, in conjunction with others, to determine the nature of the adulteration in honey, and the best methods of detecting it, and no amount of buncombe billingsgate can drive me from the work of securing to the honest bee-grower an honest market. Your statement that, "It has no foundation except in the Wiley lie, when any one says that comb honey is adulterated," is false, and betrays either a pitiable ignorance or a reprehensible maliciousness.

The Professor can get no comfort from such tactics. It is too well-known and incontrovertibly established, for him to contradict that the AMERICAN BEE JOURNAL has valiantly fought the adulteration of honey for many years. For him now to attempt to create an *impression* that he is "securing to the honest bee-grower an honest market," and that the BEE JOURNAL is defending adulteration is simply monstrous! Such an assertion "betrays either a pitiable ignorance or a reprehensible maliciousness!" The Professor must here take another dose of his own medicine, after which we will quote from his letter the following paragraphs:

I have the honor to send you a reprint of an article in the *American Apiculturist*, containing an analysis of three samples of "Choice Comb Honey," viz: 2, 3 and 4, which consisted of almost pure starch glucose. How this glucose got into the comb I will leave you to surmise. There were brave men before Agamemnon, and long before the days of Wiley, the honey of our country was famous for its adulterations. Hehner, a distinguished English analyst, in Vol. IV of the Analyst, says: "Corn syrup is actually most frequently found in honeys imported from America." "Of nine American samples, seven were adulterated." "In August, 1884, one Campbell was arraigned before the police court of Glasgow for selling adulterated honey. The sample was found to contain 57 per ct. of starch glucose. Campbell said, in defense, that the honey was warranted to him to be genuine American honey, and he believed it to be so. The defendant was convicted."

Commenting on these instances, I said in an address to the Indiana bee-keepers, Jan. 22, 1885: "Every adulteration of honey is not only a fraud upon the producer, but is downright robbery of the honey-growers. How much more profitable would it be for the apiarist, how much more satisfactory to the consumer, were the people to rise in the majesty of public opinion and of law, and say to the world, 'The adulteration of American honey is a thing of the past!'"

The reprint article which the Professor sent includes five tables, the total unreliability of which is shown by the fact that samples of honey Nos. 15, 16 and 17, were obtained from Mr. C. F. Muth, of Cincinnati—a man known by every bee-keeper of prominence to be the essence of honor and honesty, and who has never soiled his reputation by adulterating honey or anything else! and yet these three samples are said by Prof. Wiley to be "*Honey apparently adulterated with inverted sucrose!*" Two other samples obtained from Mr. Muth are classed as "apparently genuine."

Prof. Wiley had the assurance to send to Mr. Muth for more samples to analyze. This was indignantly refused—in these words: "We *know* what we deal in, and handle only straight goods—and want nothing more to do with your 'apparently pure.'"

The component parts of honey from different soils, vary so much that but few (if any) can *positively* determine, even by analysis, the purity thereof. Some candied honey, *which we know to be pure*, was analyzed, a short time ago, and pronounced *adulterated!*

As to the Scottish honey dealers' trial, the Professor should know that it was extracted honey, and *not comb honey* that was adulterated. The full particulars may be found in the AMERICAN BEE JOURNAL for 1884, and yet Prof. Wiley quotes it as *news* to us four years later! It would be advisable for the Professor to read the AMERICAN BEE JOURNAL before attempting to correct its editor, or instruct its readers. The Professor concludes with this *shot:*

I can see but one explanation of the frantic attempts you are making to conceal the gravity of the fraud which is practiced on the honey-growers of this country by adulteration. If you really believe there is no adulteration, you are ignorant; if not ignorant, your motive is easily understood.

Respectfully, H. W. WILEY.

We are *not* "ignorant" of the fact that extracted honey *was* quite generally adulterated when it brought higher prices, but *now* its price is so low that it will not pay to adulterate it, and it is in consequence hardly ever done! Persons will not adulterate any article when it does not pay them to do so! Adulteration of honey, (now "a thing of the past,)" we fought with all our energies until it ceased to exist!! To bring up that ghost now, as the Professor has done, is but to fight a *dead* issue!

A Brief Review of Seven Years.

Now, in 1888, Prof. Wiley wants to figure as the *friend* of "the *honest* bee-grower," and the enemy of the adulterator—as the *defender* of "an *honest* market" for honey, and as a "detective" to pursue the sophisticator of honey.

But in 1881, in an address before the Farmers' Institute at Crawfordsville, Ind., when advising farmers to grow corn to be made into glucose, he is credited in the *Indiana Farmer* with saying that "really better honey can be made from glucose than the genuine article itself!!" In June of the same year he wrote over his own signature to the *Indiana Farmer*, these characteristic sentences, which were copied into the BEE JOURNAL, then, on page 370:

"Glucose" has the same effect on the BEE JOURNAL man that a red rag has on an infuriated bull, and it is decidedly amusing to see the awful anger which this INNOCENT *taffy facient* can produce.

In commercial honey, which is entirely free from bee-mediation, the comb is made of paraffine, and filled with pure glucose by appropriate machinery.

This last clause which, when written, was meant for a scientific pleasantry, came near throwing the whole bee-world into epilepsy. It appears that persons who devote themselves to BEE JOURNALS undergo a certain cerebral inspiration which renders them *incapable of seeing a joke*. The only point they can appreciate seems to be the sting of a bee.

Gov. Porter, in his able and interesting address, said something similar to the above, and succeeded, as he intended, in *raising a hearty laugh*.

I am appalled to think of the awful solemnity with which the Governor's remark would have been received had his audience been composed exclusively of the editors of the BEE JOURNAL, instead of the intelligent yeomanry of Bartholomew county.

Perhaps in order to secure a "posthumous reputation," for which I care little, I might undertake here to show the BEE JOURNAL the great *similarity* between genuine honey and good glucose, but I fear it would be "love's labor lost." He is evidently suffering from an acute attack of gluco-phobia, and what I might say with the best intentions would only throw him into another spasm.

Our remarks after publishing these selections, seven years ago, are as appropriate to-day as then, for we have been on the same side all the time, while Wiley has been flopping hither and thither, as the years have come and gone. We then said:

Could any possible good result to society at large from such reckless assertions, there might be some palliation; but when the only justification which can be urged is, that it was intended as a "scientific pleasantry," it leaves the author but little to congratulate himself upon, even though he has succeeded in disgusting the world.

Not a pound of "paraffine-comb, filled with glucose and sealed by machinery" (in imitation of honey) can be found on the market, even though three years of failure of the honey-crop offer the greatest inducement for its appearance, and honey in the comb brings high prices! This fact proves that *it does not exist!*

The Apicultural Station.—In the recent report of Norman J. Colman, Commissioner of Agriculture, to the President, we find the following, on page 18, concerning the work of Mr. N. W. McLain:

The work of the Apicultural Experiment Station has been carried on in the same lines laid down in my last report. For convenience in obtaining supplies, and for other reasons, the station has been removed from Aurora, Ills., to Hinsdale, Ills. The work has consisted of the study of the various kinds of diseases to which bees are subject, including an inquiry into the causes of disease and application of suitable remedies. The work in this line of investigation has been singularly successful and satisfactory. Suitable fixtures have been devised and constructed for securing the benefits resultant from selective breeding by means of skillful crossing of the different races of bees, and persistent effort has been made to secure the control of the process of reproduction. This feature of the work has been only partially successful, owing to the prevalence of a drouth of unprecedented duration and severity, but much information of scientific value has been obtained which will be of practical service under more favorable climatic conditions.

Some progress has been made in testing the qualities and characteristics of some varieties of ancestral stock, and the results attained furnish encouraging assurances of what may be realized in the future in producing a variety of bees completely adapted to domestication under the varied conditions existing in different parts of the United States. Information concerning the wintering of bees, the values of different varieties of bee-forage plants, etc., have been obtained, and will have place in the reports of the agent in charge.

The Union.—Mr. J. E. Pond, of North Attleboro, Mass., thus writes about the National Bee-Keepers' Union and its special work:

Why do not our bee-keepers all join the Union? It is a surprise to me that so few as yet have enrolled themselves under its banner.

I am aware that as yet no *real* necessity has arisen that demands of the many that they should join, still they (the many) ought not to take the "self alone" view of the matter. To-day A and B only are pursued; still, C, D and the rest of the alphabet may be pursued to-morrow, and even if they are not, it does seem to me that such a band of brothers as the bee-keeping fraternity ought to co-operate in a common cause, and for a common purpose.

In my own correspondence upon this subject, I have been met with the idea, that the Union should take up every trouble and difficulty a member gets into, and fight it out for him; and in one case I was asked in good faith, if I did not think "the 'Union' ought to fight a personal suit for debt of a member." Of course there is but one answer to such a question; but in a case like that of Mr. Clark, of Arkadelphia, if he is being persecuted, he ought to have not only the sympathy, but the solid cash of every bee-keeper in America. If, on the other hand, he is violating a law, then no matter whether just or not, the Union ought not to support and sustain him, but should use its best efforts toward wiping out the law if unjust.

The fee is small, and if every bee-keeper would enlist, a force would be raised that would cause factious complainants to think twice before they pitched into a member.

Mr. Pond asks *why!* We have often asked WHY bee-keepers do not *en masse* join the Union, but have never yet been able to solve the problem. Such an organization is of no particular interest to the editor of this JOURNAL—except as it entails considerable labor and trouble upon him—but to the pursuit in general, it is a mountain of strength—a tower of defense!

The annual fee is so small that there can be no reasonable excuse for any one remaining outside—the only word that can convey the exact condition of affairs is *apathy*. It is a kind of selfish indifference—a feeling of "*don't care*, as long as I am left alone." Brethren, is it not quite time to

Shake off dull sloth, and early rise
To make so small a sacrifice?

Admit that you do not personally need the protection which the Union endeavors to give, is it not the duty of every apiarist to assist in upholding the pursuit, and secure to its devotees their rights and privileges? While we are writing this paragraph, the Union's attorneys are fighting for a bee-keeper's rights in Arkadelphia, Ark., before a high court in that State.

Mr. Z. A. Clark kept bees in the outskirts of that city—was arrested and placed in jail for maintaining a public nuisance, by the arbitrary Mayor and prejudiced Councilmen.

There seems to be no complaint (says an exchange) that the bees have ever disturbed any one, or that any person has ever been stung by them, and the only charge brought against them, is that "They eat peaches and destroy young ducks," a charge so absurd that it does not require any one's serious consideration. Mr. Clark is a poor man in advanced years, trying to make a living from his bees. He is highly spoken of by his neighbors as a Christian and a temperance man, minding his own business, and letting that of others alone.

If this will not arouse bee-keepers to a sense of *their duty*, as well as *the dangers which threaten them*, we despair of anything doing so. The Union should have ten thousand members within the next 30 days. Reader, if you have not already sent your dollar for membership in the Union, you should do so at once. Sit down now and send for a membership ticket, and thus show your patriotism and appreciation of the Union's defense of the pursuit, and your own good sense and level head.

The Honey Harvest.—Mr. G. W. Demaree, of Christiansburg, Ky., gives his views concerning the prospects for a short crop, and the cause which led to it, in the *Canadian Bee Journal* in these words:

Not unexpected by me the surplus honey harvest is not a "harvest" of surplus honey in the Middle States of the United States, the present season. Of course, some favored localities have done much better than the general field of operation. But taking all together the honey season for 1888 is a great failure in Kentucky, and perhaps in the Middle States, and wherever the drouth was severe, and of long duration last season.

When I had less experience in such matters, I used to insist that the honey seasons were no more affected by the state of the weather than are other branches of agriculture. But a more extended experience and observation has dissipated this fond delusion. The fruit trees on my grounds which withered and faded under the scorching drouth of last season, are now green and flourishing, and are loaded with fruits of their kind in a healthy, growing condition. All annual vegetation has come forward handsomely, and up to this writing, June 25, promises an abundant harvest. But such is not the case with the *surplus honey* bee-forage, which is catalogued with the hay crop, including all perennial grasses.

The surplus honey resources of a large portion of the Middle States depends on the perennial nectar producing plants, chiefly the clover, which must be developed one season in advance of their usefulness as honey-bearing forage. Hence a severe and protracted drouth during any one season does not necessarily cut down the honey yield of that particular season, but its effects are felt more surely the following season. This because the drouth of one season destroys the young plants which otherwise would furnish bee-forage for the succeeding year.

The present season, following two severe years of drouth, makes a very good honey season at the present, out of the question. The earth is covered at this time with a healthy growth of young white clover, and if there is sufficient rain from now forward to keep it in a growing condition, there is a hopeful future ahead—hopeful to the younger members of our fraternity—the loss of a *precious* year to *us* older ones is more keenly felt. But after all it is by no means certain to human foresight that the decade of drouth years is at an end, the rain-fall up to this date has been light, and the showers have been partial.

In some localities there has been rain enough for the needs of the crops at the present stage of this growth, while in other localities the crops are suffering for rain. This state of things makes the outlook not at all bright to the most hopeful.

QUERIES & REPLIES.

Wet Bee-Cellars—Material for Cellar Floors.

Written for the American Bee Journal

Query 562.—I have a cellar under my house 26x30 feet, and divided in the centre by a brick partition. The walls are hollow and frost proof. Bees have wintered well in it, none dying except from starvation; but it seems to be quite wet. It has two chimneys that commence in the cellar and have openings 3½ feet from the bottom. It has a ground floor which is heavy clay. 1. What material is the best for a floor to keep the dampness down? 2. Is a cellar in clay ground as good as in gravelly or sandy ground?—Wisconsin.

1. Cement. 2. Yes, if cemented.—M. MAHIN.

If bees winter well in your cellar, you had better let it alone.—C. C. MILLER.

1. A board floor raised 1 or 2 feet. 2. No.—DADANT & SON.

1. Brick and cement. 2. I think so, though I am not certain.—J. M. HAMBAUGH.

1. A coarse grout, or gravel, and cement. 2. It is not as dry.—MRS. L. HARRISON.

If the bees have wintered *well*, you should be satisfied that the dampness does no harm.—G. M. DOOLITTLE.

1. A good cement bottom made from water-lime and sand. 2. I prefer a cellar in sand or gravel.—H. D. CUTTING.

The fact of your cellar being a little wet I think would not make it unsuitable for a winter repository. Put in a wood floor of fat yellow pine, with the same sort of sleepers.—J.P.H. BROWN.

1. Drain thoroughly, and then if you want a harder and smoother bottom, cement it with water-lime mortar. 2. Yes, if as dry as the gravelly or sandy ground.—A. B. MASON.

2. A cellar in clay would generally be damper than one in sand. For most purposes to which a cellar is devoted, one in clay would be best. For bees, I prefer one in sand.—R. L. TAYLOR.

Gravel or sand would be better than clay. Our Kentucky clay is very retentive of moisture. Brick laid in cement makes the best floor for a cellar or "mound house" that I have tried.—G. W. DEMAREE.

1. As your own report indicates, dampness does not hurt bees if the temperature keeps up, and I should as soon have water 6 inches deep in my cellar bottom, as otherwise, as far as injuring the bees is concerned.—JAMES HEDDON.

That bee-cellar is exactly like mine, with the exception that mine has a cement bottom, and is dry. 1. Dig out a foot or so of clay unless it is deep enough. Then put in 6 inches of broken stone and gravel. Make your cement quite thin, and pour over the stone, filling all holes. Put on two or three coats, smoothing it down with a trowel. 2. Yes.—C. H. DIBBERN.

Work a tile drain in under the cellar wall all around with sufficient fall to carry the water off to the outlet; then cement the bottom of the cellar thoroughly. I have a cellar that winters bees perfectly, and it has a clay floor, but it is as dry as a bone.—J. M. SHUCK.

If your cellar has wintered your bees well so far, why make *any* change? 1. It will be difficult to prevent dampness by any change of bottom. 2. This depends upon so many other considerations that it is impossible to answer.—J. E. POND.

1. "The proof of the pudding is in the eating." If your cellar has always wintered bees successfully, that beats any man's theories. I should let well enough alone. 2. If a choice were possible, I should choose gravelly or sandy ground.—EUGENE SECOR.

The only way to have a dry cellar in clay soil is to drain it thoroughly. Even the best cement floor will not keep the water out if undrained. But why mind the damp, if the bees winter well, unless for your own health? A well-drained cellar in clay is as good and as dry as one in sand or gravel.—A. J. COOK.

1. Cement; but you must have a good drain if you would keep it dry. Dampness, however, is not detrimental to bees in winter. 2. Yes; if it is as dry as one in the sand or gravel.—THE EDITOR.

An Apiary in a Town Lot.

Written for the American Bee Journal

Query 563.—I have 18 colonies of black bees, and only a small town lot to keep them on, where they are liable to intrude upon persons on adjoining lots. 1. Would it be advisable for me to change them to another variety? 2. If so, what variety? 3. Are there any particular instructions that would be of benefit to one who lacks room for bees?—Strawberry, Iowa.

1. For profit, Italianize them. 3. No.—MRS. L. HARRISON.

1. Change them to Italians. 3. Keep them on a roof, as C. F. Muth does.—G. M. DOOLITTLE.

1 and 2. I should prefer Italians. 3. You had better have high fences or hedges.—C. C. MILLER.

1 and 2. I would change to the Italian. 3. No. I would locate them on the part of the lot furthest from the street.—J. P. H. BROWN.

1. Yes. 2. Italians. 3. Smoke them carefully whenever you handle them, so that they will not sting the neighbors.—DADANT & SON.

1. Yes. 2. Italians. 3. A high board-fence is sometimes essential to protect timid neighbors.—J. M. HAMBAUGH.

1. No, not for the purpose stated. 3. Make room, go where you will have plenty of room, or quit the business.—H. D. CUTTING.

1 and 2. I would change them to Italians or Carniolans, and keep them pure, if possible. 3. Bees will bear a great deal of crowding.—M. MAHIN.

1. Yes. 2. Italians. 3. Observe the "Golden Rule." "Soft words" and a little honey, properly used, will do lots towards getting, and keeping, good neighbors.—A. B. MASON.

Yes, either Italian or Carniolan bees are less likely to sting. 3. A high, close fence, or evergreen hedge between your lot and that of your neighbor, makes the danger far less.—A. J. COOK.

1 and 2. I should change to Italians in any case, as they are far more pleasant to handle, and less liable to trouble travelers. 3. Yes, plenty of them; far too many for this department. Unless very peculiarly situated, I should risk the present location with Italians. Be sure and get them pure.—J. E. POND.

1. I would change my location, or sell the bees. I doubt if you can be prosperous with *any* race of bees on a small town lot, surrounded by near neighbors, and retain the good-will of the neighbors. If you can, you have solved the problem.—EUGENE SECOR.

There ought to be no difficulty in keeping 18 colonies on a town lot. You do not state whether the trouble arises from swarming, or people being afraid of stings. If your bees are very cross, change to some gentle variety. I now give the preference to the Carniolans.—C. H. DIBBERN.

1. I would change the bees, anyway. Italians are generally less inclined to attack than blacks, and Carniolans or Krainers are still less inclined to make trouble. 2. A "house apiary" is an excellent arrangement where there is lack of room.—J. M. SHUCK.

1. I think not. Destroy the queens which you find produce irascible bees. 2. A quiet strain of Italians would be a little less likely to cause trouble. 3. A high, tight board-fence, or a close row of trees around the apiary would cause the bees to rise in going a-field, so that with proper care the chance of their disturbing neighbors would be very slight indeed. Beware of leaving

honey where the bees can get at it in time of dearth.—R. L. TAYLOR.

1. Yes. 2. Italians would be the safest bees to keep under such circumstances. 3. Perhaps so. You can enclose the plat of ground on which yonr bees are located, with a high, tight board-fence, so as to habituate your bees to a high flight when passing over the adjoining grounds. Under such circumstances I would clip the wings of the queens so as to control the swarms, without having to go after them on adjoining grounds.—G. W. DEMAREE.

1. No, I should change them to another place more suitable. Placing a board-fence around the bees, is equal to moving them further from a road or neighbor's lot. 2. Brown German bees are no more liable to sting than other varieties. 3. The best instruction upon the subject will be by reading books and back numbers of periodicals devoted to bee-culture.—JAMES HEDDON.

As *pure* Italian bees are less liable to interfere with the neighbors, it would be very desirable to Italianize the bees as soon as possible. A row of trees, an evergreen hedge, or high board-fence would be advantageous, but to move the bees to where there is more room is the *best* advice which can be given.—THE EDITOR.

CORRESPONDENCE.

EXPERIMENTS.

A Report of Some Experiments in Apiculture.

Report to the Commissioner of Agriculture

BY N. W. M'LAIN.

(Concluded from page 474—last week.)

Starved Brood.

A disorder which has been quite common in several States during the past season, is resultant from conditions prevalent during severe and protracted drouths, and long periods of extremely high temperature, such as has existed over large areas.

The disorder is significant and important, not so much on account of the actual numerical loss entailed upon colonies affected, which in my own ease, and in many cases reported to me, have been severe, as in furnishing proof of failure on the part of those food elements indispensable during the breeding season to meet the large demand for larval food, and essential in maintaining the health and vigor of the bees while the digestive and secretory organs are being taxed to the limit of their capacity. This failure of natural resources results in low vitality, susceptibility and predisposition to disease, and inability to successfully perform the function of hibernation. With some exceptions, due to local advantages, throughout the States stricken by the drouth of the past summer, the bees have entered upon the period of hibernation under conditions more or less unfavorable in proportion as they have suffered in greater or less degree from the effects of the all-consuming drouth and heat.

The symptoms of starved brood are distinctively characteristic. Upon opening the hive a slightly offensive odor may be noticed if the colony has been suffering for some time. If the comb frame be lifted from the hive, and the bees shaken off, few if any eggs can be found. Of such brood as is sealed, the cappings appear to be thin and flat, and slightly sunken, and commonly of darker color than is usual in prosperous colonies. Upon opening the cells they are found to contain dead pupæ in various stages of development, always inferior in size, and the food supply exhausted.

In the midst of sealed brood patches of uncapped larvæ appear, and sometimes a patch of 5 or 6 inches square, and sometimes there seems to have been no effort made towards sealing half the grown larvæ in the hive, although the time for such sealing may be far overdue. The membranes of such larvæ do not present the plump, pearly-white appearance common to well-fed larvæ. On the contrary, the membranes are more or less shrunken and wrinkled, and not unfrequently, when the larvæ have reached the advanced pupa stage, the compound eyes begin to color, and the cells are partially capped and then abandoned, and the appearance is that commonly designated by the term, "bald-headed bees." Sometimes a few of these bees, dwarfed in size, emerge from the cells and engage in the labors of the hive with what vigor and for such term as their limited development will permit.

In a number of tests made during the past season, the progeny of the same queen, reared under directly opposite conditions of larval growth, so varied in size as not to be recognizable as offspring of the same progenitors. The reason for this variation was not far to seek. The changed conditions of the colony during the time when the different generations were being reared, determined the modification in development. The remedy I used and prescribed for others was a preventive rather than a curative. Starved brood means starved bees. If the cause be removed, the effect speedily disappears. All that needs to be done is to supply them with a substitute for those resources essential to their own health and vigor, and indispensable in brood-rearing, in search of which they are rapidly and vainly wearing out their vitality.

The recipe for preparing the remedy is as follows:

To 10 pounds of sugar add half a pint of dairy salt, 2 table-spoonfuls of biearbonate of soda, 2 table-spoonfuls rye flour, 2 table-spoonfuls of very finely powdered bone ash, and 1 table-spoonful of cream-of-tartar. Mix thoroughly, then add 2 quarts of hot water, and stir until thoroughly dissolved, then boil for two or three minutes only. To one-half a pint of fresh milk add 3 fresh eggs thoroughly beaten, and when the syrup is cool enough to feed add the eggs and milk, and when thoroughly stirred, feed warm. Feed in the hive as one would feed honey or syrup.

I used this same food for preventing spring dwindling, and for building up colonies to full strength and efficiency, so that all colonies may be ready for work at the very beginning of the season, when surplus honey may naturally be expected. This food fed in the hive keeps all the bees at home to aid in performing the functions of brood-rearing, and in keeping up the temperature of the hive instead of spending their little remaining strength in battling against the cold, damp winds while searching for the food elements needed to repair the waste and drain upon their vitality while hibernating, and indispensable in brood-rearing. This food is not intended for use until after the bees have had a good flight in the spring, and almost any grade of honey or sugar may be used. This special food is a potent stimulant and tonic to the adult bees, giving tone and vigor to the organism, and furnishes the elements essential in brood-rearing in the place and in the manner suited to the convenience and tastes of the bees. No greater quantity should be fed than is required for the current needs of the colony.

The Control of Reproduction.

In order that the laws of heredity and the active principles of selection may be practically and persistently applied in the breeding of bees, I have in obedience to your instructions continued my experiments, striving to discover a simple and practical method for securing control of the natural process of reproduction.

I devised and constructed a fixture, which I call a fertilizing cage, 22 feet square and 26 feet high. Selecting a level plot of ground I set 4 rows of posts, 4 posts in each row, forming a quadrangle. These posts are 4 inches square, and 30 feet in length, set into

the ground 4 feet, and exactly 7 feet apart. Four rows of girders, 2 by 4 inches by 22 feet and 4 inches are halved in two and bolted to the inside of these posts, the first row 5 feet from the ground, then three rows at intervals of 7 feet until the top is reached. The upper 3 lines of girders are continued from each side of each inside post, forming a brace on each side of each post at intervals of 7 feet, and forming the bearings for the wire-covered frames which cover the top of the cage. The space from the ground to the first girder, 5 feet, is covered with matched lumber nailed to the outside of the posts, leaving a smooth surface on both sides. The upper 21 feet on the sides and the top of the cage is inclosed by wire-covered frames 7 feet square, bolted to the girders on the sides, and securely fastened with screws to the frame-work at the top.

The height of the cage is thus adjustable at 26 feet, 19 feet, or 12 feet from the ground by simply lowering the screen frames forming the top, and the upper row (or two upper rows as the case may be) forming the sides of the inclosure, the purpose being not only to determine whether queens or drones would mate in this cage at full size, but also how small an inclosure would be sufficiently large to give suitable freedom and range of flight.

These wire-covered frames are framed like a two-light window-sash, with a mullion in the centre, on which the two breadths of wire-cloth meet. Strips of wood secure the edges of the cloth, and cover all joints at the sides of the frames. With the lower board of the siding settled into the ground, and earth filled against the inside, and the door tight-fitting, the cage is bee-tight. I used drab-colored wire-cloth, which obstructs the light but very slightly. A shelf is fitted against the four sides of the cage on the inside 1 foot from the ground, and alighting-boards directly opposite on the outside. Upon this shelf the hives are placed.

Each hive has an exit cut in either end, and an exit is cut through the wall of the cage registering with the outer exit of each hive, over which, on the outside of the wall, a piece of queen-excluding zinc is nailed. These hives are painted strikingly distinguishing colors, as red, white, blue, green, yellow, and black, and a space opposite each on the alighting-boards, and a corresponding space on the outside of the wall of the cage are painted in corresponding colors. The colors are repeated in the order named, which separates the hives of the same color a sufficient distance to prevent confusion, and the bees and queens readily distinguish their own hive by means of color as readily as by location.

If the inner exit be left closed for a day or two after a colony is placed in a cage, the worker-bees readily learn to enter their own hive upon returning from the fields. I found that the queens had no difficulty on returning to their own hives after taking flight in the cage. To test that fact I frequently opened a number of hives in succession, and placing the queens upon the palm of my hand tossed them high in the air, when they would take wing and fly away.

Upon re-opening the hives a few minutes later they would be found upon the combs. The queens and drones appeared to fly and disport themselves with as much freedom and regularity in the cage as they did in the apiary outside. The virgin queens were introduced from the nursery by various methods. Some were hatched in colonies in the cage from cells matured in strong queenless colonies, and some from cells built under the swarming impulse, which this season could be produced by artificial means only. Mature drones were selected from the hives in the apiary, and also from those returning from their excursions and liberated in the cage, and sealed drone-brood was removed from the hives in the apiary and hatched in strong colonies built up in large hives in the cage, and these drones all flew with freedom and regularity.

A few times I observed a queen embrace a drone and fly all about the cage with entire freedom, and then, the embrace being broken, each flew away in different directions, the queens returning to their hives, and the drones at once rejoined their fellows in the upper part of the cage. It is needless to add that in such cases no accouplement had taken place.

The results realized from this line of experimental work have been so meager, and the circumstances attending the experiments so exceptionally unfavorable that it is not easy to form an estimate of their value, or determine their significance. Of the many scores of trials made, but six were successful; but six queens were fecundated in the fertilizing cage. However, as the improvement of the bee to the highest attainable excellence outranks all other considerations in practical importance and scientific interest, the methods and results of any intelligently-conducted experiments having this end in view, are well worth placing on record. Besides future trials may receive direction from a multitude of failures, and the trying experience of the past season is not without compensating features, for even the little grains we make in positive knowledge, although apparently trifling in themselves, have often significant meaning and broad bearing on questions of great value and importance.

My experience and observation lead me to believe that the main reason why this experiment was not satisfactorily successful was because of the protracted drouth and high temperature which lasted through the entire breeding season, the like of which has not before been known in this region. From May, 1885, until December, 1887, drouth prevailed, broken only at long intervals by light showers. The succession of two summers of excessive heat and unbroken drouth insured disaster to the present season cumulative in kind and intensified in degree. Continous feeding has been required to keep up breeding and to prevent starvation.

Whenever feeding was suspended for two or three days, throughout nearly the entire season, oviposition would cease, and the bees ate their eggs, and it has required persistent trials and careful management to rear drones and keep them alive. It has been difficult to get three or four queen-cells matured in colonies such as in ordinary seasons would rear from 25 to 40, and of those permitted to remain outside in the apiary and seek a mate at will, two of every three failed of fecundation.

During the entire season a large majority of the larval queens, being insufficiently fed, died in the cell, and when for days and weeks together the temperature ranged from 110° to 120°, F., in the sun during several hours each day, the pap-food would ferment and turn a dark amber color and dry up to the consistency of thick glue at the bottom of the cells with the dead pupæ. When the temperature ranged from 100° to 110°, F., in the sun, the average temperature in the hive was from 5° to 2° higher until 112° was reached. Then, when the range in the sun was from 115° to 125° the temperature did not go above 112° in the hive. The fanners were able to prevent the temperature rising above 112° in the hives standing in the sun with a shade-board above the hive-cover. The worker larvæ seem to be able to endure a higher temperature than queen larvæ.

This season, as a rule, the drones were much smaller than drones from the same ancestors in the summers of 1885 and 1886, and there was a great inequality in the size of the drones and queens of the same parentage, and reared at the same time in the same hive, and a very unusual proportion of the queens were deformed and unable to fly.

Continued observation and experiment furnish corroborative evidence of the correctness of the theory advanced

in my last annual report, namely, that drone bees differ in degrees of procreativeness, properly classified as the impotent, the conditionally potent, and the potent; and that it is the prerogative of the worker-bees to determine the degree of development, and dominate the function of the drones as they determine the kind and degree of development of instinct and organism, and dominate the functions of the queen.

The volition of the queen determines the sex of every one of her descendants; but the life of every individual, as well as the modifications in organism and instinct, depends upon and receives its direction from the worker bees, whose unerring prescience forbids the rearing or maintaining of individuals for whose services there exists no present or prospective demand. It is only when this keen apprension of the present and prospective conditions of environment indicates a necessity for rearing and maturing potent or potentially potent individuals that such are reared and matured and furnished for the functions they are to perform.

Under circumstances unfavorable in the extreme, a condition of seeming prosperity may be artificially produced, and drones numerically plentiful may be reared and preserved alive. It has taxed my skill and patience to the last degree during the past season to do this. I resorted to every strategem I could devise to secure a supply of mature drones, but in most cases the workers were either unable or unwilling to supply the drone larvæ with food suitable in kind and quantity, for a large proportion of the drones were dwarfed. Dissection showed the sex organs of this sort to be inferior in size, dry, and empty.

Not one drone in one hundred of those which were fully developed, when held by the legs or wings, or when pressed upon the thorax, were able to perform the expulsion act, and the sex organs of such, with rare exception, contained nothing but a little clear, thin mucous. I have during the past season at various times examined the contents of the sex organs from scores of drones well developed and structurally perfect of the class which I believe to be potentially potent, in which I have not been able to discover active spermatozoa, nor was the mucous secretion present of that color and consistency which I believe to be the product of special feeding, and indispensable to sexual desire, and for liberating and floating the spermatozoa into the spermatheca.

Without wishing to appear dogmatic, after another season exceptionally favorable for such observation and experience as has furnished more complete data and corroborative evidence, I venture to reassert my belief as set forth substantially in my last annual report, that the preparation for and exercise of the reproductive faculty in drone bees, as well as in queens, depends upon and is determined by the workers. As with the queen, so with the drone, desire and capacity wait upon the will and resources of the workers.

As the queen must be bountifully supplied with egg-food before the egg-cells begin to germinate and mature in the ovaries, so I believe the drone must be well supplied with that special food suited and intended to produce the desire and capacity for performing the act of copulation, the giving and withholding of which is instinctively determined by the worker bees, as the present and prospective condition demands.

Throughout the past season of extreme heat and protracted drouth there was almost a total failure of all natural resources, and all the influences of nature to which bees are subject, warned them that there was no actual necessity for feeding and maturing drones, and that the abundance and prosperity with which I had supplied them were artificial and deceptive.

In the impotency of the drones, almost universally prevalent, I find the reason for the almost total failure of this experiment. The fact that both drones and queens flew with freedom and regularity it the cage, and the fact that in a few cases queens were successfuly mated in the cage when but few were successfully mated outside, leads me to believe that under favorable conditions satisfactory success may be expected. Experiments in breeding bees during the prevalence of such climatic conditions as those of the past season, are attended with hindrances which I have not been able to overcome. My experience and observation have suggested some changes in the size, shape, and manner of constructing the cage which I believe would be an improvement. If, under favorable circumstances, the control of the process of reproduction can be secured by the use of a device permanent in kind, and of moderate cost, then every queen-breeder and progressive bee-keeper may apply the laws of heredity, and the principles of selection to the breeding of bees with assurance of realizing results alike in kind and degree to those which have by the persistent application of the same laws and principles been realized in breeding all kinds of domestic animals.

I have, by establishing mating stations in localities remote from other bees, secured the mating of queens and drones selected on account of their excellent paternity and perfect development. I controlled the flight of the different varieties by the use of queen-excluding zinc.

By crossing selected individuals of different varieties, and by mating selected bees of the same variety avoided in breeding, I have laid the foundation for some ancestral stock of superior excellence. This kind of work requires much patience and persistence during such a season as that just ended. I have begun many other experiments, many of which failed, and others, lacking in completion, require no mention here.

Hinsdale, Ills., Dec. 31, 1887.

BEE-CULTURE.

Bees, their Functions, Habits, Uses and Products.

Written for the American Scientist

BY GEORGE H. HASTINGS.

In the oldest writings mention is made of the bee, honey, and the honey-comb, and a land flowing with milk and honey. From this we infer that the common honey-bee has been known since the dawn of civilization, and that it is of Asiatic origin.

This insect has been the theme of many writers. Volumes have been and are being published, and there are journals devoted wholly to this subject.

Bee-culture possesses a fascination peculiar to itself. The study of any other species of the animal kingdom cannot equal it. This is due, in a measure, to the many superstitions with which it was regarded. To-day, even, there are many people who believe that when a bee-owner dies, some member of the family must communicate this intelligence to the bees by rapping on the hive. You will be interested in reading a poem by Whittier, entitled, "Telling the Bees."

In the 18th century, Huber, a Swiss naturalist, who became blind at the age of 15, published many articles on the natural history of the honey-bee. These writings are the first to tell the truth, and are quite remarkable, considering the way in which the experiments and observations were made.

If a prosperous colony be examined in June, there will be found three kinds of bees, viz., the queen, the workers, and the drones, also three kinds of cells. Two of these will be horizontal and hexagonal, and will differ in size only. The smaller is the worker-cell, the larger the drone-cell. The third cell is much larger than the

others, and resembles an inverted cone with the opening at the apex. The different cells will be found to contain various substances—such as honey, pollen, eggs, and immature bees.

The queen, or mother-bee is rightly named, for without her no colony can exist but for a short time. She is longer and more slender than the others, and is armed with a sting. The abdomen is quite tapering, and the wings short. She is the only perfect female in the hive, and during the height of the breeding season lays from two to three thousand eggs per day. This seems an exaggeration, but it does not equal the fecundity of the female of the white ant, which lays at the rate of sixty per minute. The queen has it in her power to lay drone or worker eggs. She will deposit in the worker-cells the right eggs, and as it happens many times, the drone-cells border these, but no mistake is made, for on examination no worker is found in a drone-cell, but drones may be found in worker-cells as was intended. This takes place when the apiarist removes all the drone comb, which gives no other place for the drone-eggs. About ten days before swarming, eggs are laid in the queen-cells, so that when the swarm issues a new ruler will be ready to take steps to carry on the work of the old. This work consists mainly of laying the eggs. The queen is much respected by the workers, a body guard of which encircles her. The food consists mostly of honey, which is taken from the proboscides of the workers.

The worker-bee, incorrectly called the neuter, is a female with ovaries imperfectly developed. It is smaller than the queen or drone, but has longer wings, is armed with a sting which it is ever ready to use in defense. The instrument is less than one-eighth of an inch in length, is hollow, and has two sacks at the base that contain poison. The sting is left in the wound, and the poisonous sacks and a portion of the intestines adhere to it. If the sting is removed from the wound immediately, little harm will result. Otherwise the muscles of the sacks contract and force all the poison into the system. When a bee loses its sting, it soon dies. Hornets, wasps, etc., do not have a barbed sting. They retain it, and can sting many times in a moment. Does it seem that the worker would be as ready to act on the defense if it knew what would be the result? The queen is quite different in this respect. She cannot be induced to sting except in mortal combat with another queen. The bystander will not interfere, and after a short conflict, one falls a victim and the other becomes supreme ruler.

The hinder legs of the worker contain a spoon-shaped cavity or basket in which the pollen from the flowers is gathered, and a sticky substance called bee-glue.

The worker is furnished with a tongue or proboscis, with which it takes the nectar from the flowers. Honey is gathered, not made. The honey is conveyed to the honey-bag or first stomach. This receptacle is about the size of a pea, and is furnished with muscles which enable the bee to compress it and force the contents into the cell. When honey and pollen are abundant, a load of each is gathered. Less than twenty minutes are consumed in doing this. When gathering pollen but one kind of flowers is visited, else there would be considerable confusion in the vegetable world. During the busy season the worker has no rest, and, of course, wears out quite fast. At this time few live to be more than six weeks old. At other times they may live five months. An old bee can be distinguished from a young one by the ragged edges of the wings. In the abdomen of the worker are pouches or sacks for the secretion of wax, which is the fat of the bee. This can be formed or not, as required.

The drones are the male bees. They are longer and stouter than either the queen or workers, but their bodies are not so long as that of the queen. They are not armed with a sting, and have no suitable proboscis for gathering honey from the flowers. There are no baskets on their thighs for holding bee-bread, and no pouches on their abdomens for secreting wax. Many allusions are made about the drone because he is such a lazy fellow. He does what nature intended him to do, and that is all—to impregnate the young queens. Soon after this is accomplished, the workers destroy them. This is done by biting and stinging, but the sting is not left in the wound.

The comb is made of wax, and consists of hexagonal cells of two sizes. The smaller are the worker, the larger the drone cells. It has been found that no other arrangement will give an equal strength and volume with the same material.

The more we read and reflect on such subjects, the more we find

"Tongues in trees, books in running brooks,
Sermons in 'bees,' and 'God' in everything."

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

BEE-HIVES.

The New Heddon Hive again Re-considered.

Written for the American Bee Journal
BY JAMES HEDDON.

In response to Dr. Tinker's article on page 474, I must say that I am very glad to note that the Doctor holds no ill-will toward me, for truly, as he says, he has no cause to do so. He states that his whole desire has been to forewarn the public against a recognized wrong. Now, candidly, I do not believe that one bee-keeper in one thousand recognizes or contemplates any wrong on my part. Nor do I think that the Doctor, with his comparatively limited experience with my hive, and as a honey-producer, exhibits good taste in hastening forward to "forewarn the public." I did and do think that the Doctor has done me an injury, simply to my feelings, but by no means any perceptible injury to my business. When such men as Father Langstroth, Prof. Cook, W. Z. Hutchinson, R. L. Taylor, Franklin P. Stiles, and many other honest and skillful apiarists, without solicitation, publish reports of such splendid results flowing from the use of the new hive, it cannot be possible that the Doctor's displeasure with its use can have much tendency to persuade the inexperienced that his views are correct.

I thank the Doctor, who I believe is a better apicultural historian than practical honey-producer, for aiding me in setting forth the truth, that the principles of my hive are new and novel. As I have three apiaries, and have been a specialist in our chosen pursuit for 20 years, having realized a life competency from the business, nearly all of which has been made from the production and sale of honey, and further, that I have several inventions connected with apiculture, which, after thorough and repeated trial, have gone into general use to stay, while nothing of the kind can be said of the life-work of the Doctor—certainly my judgment should be as good as his. It has been said that I am the one financially interested party, but could I not apply the same muddy argument to my chief disputant? For years past he has been offering a hive to the public in opposition to my own. First, it was something altogether different from my new hive in both construction and principle. At first his hive possessed, and its patentee plead, for continuous passage-ways. As soon as my hive came out, this hive was laid aside and another entirely different one was offered to the public, and this one contains features embraced in my

patented hive, entirely casting aside the main features of his former hive. While I allowed the Doctor to use a part of my inventions in his latter-day hive, he praised them as I have before published in this JOURNAL: but now he repudiates their value altogether. I am not blaming any one, but simply telling how it is, which the records show.

The Doctor mentions my claim to handling hives more and frames less. By way of modifications of the Langstroth hive and discoveries in manipulation, I had succeeded, much to my gratification, in "handling hives more and frames less," and so wrote to this JOURNAL before I invented my new hive. My great satisfaction realized from such manipulation, was one of the principal factors which led to my late invention, and I have found that I made no mistake.

The Doctor says that "at last it appeared that the new hive was not what it was represented to be; in fact, it was a fraud." I would ask, to whom did that appear? Now I consider this statement not only unkind, but untruthful, whether wilfully so or not. I know of no reason why those who did not like the hive would not be as apt to so report in this JOURNAL as those who did, and of those who did report, the majority in favor was unprecedentedly overwhelming. But the Doctor says that over four hundred were as silent as the tomb. Is this strange? When we consider the thousands of bee-keepers who read bee-periodicals, how many are there who can be induced to write anything for the public eye? I can show hundreds of private letters speaking in praise of the new hive, and I think I have but one or two reports of failure with it. The same mail which brought the Doctor's article to my desk, brought three letters of praise for my new hive. One of these I have filed away and forgotten the name, but I will quote from the other two, as follows:

M. S. Morgan, of South Elgin, Ills., says: "I have 17 of the new hives in use, and they are just the thing. If we get any honey this year, it will be because of the new hives."

Geo. W. Peck, of Roselle, N. J., writes: "It is a pleasure to handle bees in your improved hives. I get more honey with less labor than with the American style of hives, and the bees are always under easy control."

I quote from *these* two letters only because they came in the same mail with the Doctor's article, as I said before. I can show "stacks" of the same kind. It seems to me that this completely answers the Doctor's claim of "fraud." I should be glad if my late invention could be left by honest men to "stand or fall" on its merits.

My new style of reversible surplus case referred to by the Doctor, is, in my judgment, far superior to any other wide-frame super yet known to bee-keepers; but as I have said in my circulars, they are more costly than I could wish, and for those who prefer to work without separators, my old style of cheaper surplus-case is, as the Doctor says, well-nigh perfection, never having been improved. I have been astonished at the tendency to praise my less valuable, unpatented devices, while making war upon my more meritorious inventions upon which I obtained letters patent.

The Doctor discourses on the divisible brood-chamber of the new hive. I will say that it is one of the best functions therein possessed, and has brought hundreds of splendid testimonials. That it has ever been successfully handled as represented, in my apiary, and by a large majority of bee-keepers, and that, too, in some cases where the hive has been improperly constructed—all this I stand ready to prove by letters on file in my secretary, and by sworn testimony, if necessary.

The Doctor says: "Why use 16 brood-frames when 8 can be handled just as quickly, and answer the same purpose?" I will answer, because they do not answer the same purpose; but if any one thinks they will, there is no objection in using them that way, making the brood-chamber a single story, in which case it will carry out a part of the valuable functions of my late invention, and do not let it be forgotten that it will come strictly within the limits of my patent.

The Doctor speaks of a case of failure in performing the shake-out function. I am aware that this is not the first case of the kind. More is necessary than simply the proper construction of the hive. Ask Mr. Langstroth how many years elapsed after he gave the public the valuable functions of his hive before that public learned to take advantage of them. In the month Mr. Langstroth visited me, much of the time of which was spent in examining and testing the hive in question, every claim of which Father Langstroth fought step by step, the shake-out function was repeatedly tested, and I will refer the Doctor to Father Langstroth, not only as to whether my men and myself make it work practically or not, but if the improvements did not succeed perfectly in accomplishing all that I ever claimed for them. I am glad to be able to cite to you a witness whose intellect is a mountain, and whose integrity is a monument.

The Doctor says he made my hive (which, in the same article, he says was novel and orignal with me) just as I made it, and to prove it, cites us to his article in *Gleanings*, where he described and illustrated it. In that article in *Gleanings* my name is not mentioned, and he claims to be the inventor. Is there not a discrepancy here from which we can draw no other conclusion than that he was not using my "new and novel" invention, or that he intended to rob me of the credit of the same?

To conclude, I will say that I thank the Doctor for justly crediting me with the novelty and originality of the hive in question, and hope that the next attack, which will likely be against the novelty, and by some one who sees its merits, may be promptly met by the vigor of the Doctor's pen. I thank him further for hoping that I may yet distinguish myself as an inventor, and will say that it is evident that I have, in the eyes of some of our people; but if I have not in the Doctor's vision, it seems to me that he does not properly value the functions of my late invention which he does not use, and does not know that some of those he does use in his latter-day hive, belong to me.

History repeats itself. The Langstroth invention was a thirty-years' step in advance, and the patent-office records show a storm of bee-hive patents immediately following. Now examine these records again, and you will see that the same thing has followed the issuing of my patent.

Hives possessing cherished and stoutly-defended functions—functions claimed to be superior to anything we had or were likely to have—at once dropped into oblivion, and out came new hives, some of which were unpatented, and others having patents upon some unimportant and well-nigh useless features, but nearly all infringing the "invention" from which their devisers drew their inspiration. But such is life.

Dowagiac, Mich.

[Now, as both disputants have had their statements of the case anew, this closes the controversy in our columns, as intimated on page 475, in the BEE JOURNAL of last week.—ED.]

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Aug. 3.—	Ionia County, at Ionia, Mich. H. Smith, Sec., Ionia, Mich.
Aug. 14.—	Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.
Aug. 27.—	Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.
Sept. 8.—	Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.
—.—.—	North American, at Columbus, O. W. Z. Hutchinson, Sec., Flint, Mich.
Dec. —.—	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Abundant Honey Crop.—C. Theilmann, Theilmanton, Minn., on July 13, 1888, writes:

Bees did not do much until within ten days. They have been swarming at a great rate, and filling up their hives with honey, and placing considerable in the sections from the white clover, which was, and is still, abundant; but it has not yielded much the last few days. Alsike and red clover are the sources where my bees get most of their honey at present. Linden is just opening. It looks healthy, but only about one-fourth of the trees have buds. The weather is nice. We have a heavy hay crop here this season.

Join and Help the Union.—J. E. Breed, M. D., Embarrass, Wis., writes:

I send my dollar and vote for the Bee-Keepers' Union, and wish I could stir up the bee-men to join and help. It is a shame that they do not! Well, I am busy, though I am sorry to say I am rather shaky, and getting on in years; I cannot do much in a day, though I am always astir, and never idle. I have lots of "irons in the fire"—a little office physic, lots of bee-watching, and some work. What with watching and reporting for the United States Signal Office, company to visit with, and a garden, etc., I have little time to lounge. Bees are doing well, and the season is favorable.

No Honey Taken Yet.—G. S. Heckman, Monroeville, Ind., on July 14, 1888, says:

The honey crop in this (the eastern) part of Allen county is almost a failure. The northern part of Adams county, Ind., and the western part of Van Wert county, O., is the same. I have about 20 colonies of bees, and have kept them from swarming, which was hard to do, as they gathered just enough to make them "cranky." I have not taken off a pound of honey yet, although I have sections on every hive, and they are partly finished. I have been a specialist for 14 years.

Placing the Hives—Spraying Swarms.—O. B. Barrows, Marshalltown, Iowa, on July 16, 1888, writes:

On page 438, in Query 556, it is asked if it is "necessary to put colonies as near as a foot apart; and will virgin queens on returning to the hives be likely to enter the wrong ones?"

I have five rows of Concord grape-vines, each about 70 feet long, and 6 feet apart; between these rows of grapes I keep my bees. I began about 16 years ago with 2 colonies, and I now have 84. I have had 98 colonies, and until two years ago, my hives were all made after one pattern, and nearly all of them were painted white. They were often placed less than one foot apart, and in all this time I have never had reason to believe that one queen was lost by entering the wrong hive.

There are other objections to placing hives as close, if it can be avoided, and there can be no harm resulting from painting the hives different colors. It may amuse the bee-keeper, and can do no harm to the bees, to tack red flannel and other distinguishing marks on the hives. Nor does the beating on tin pans and ringing bells do the bees any harm when they swarm. I have a pipe run right in among my colonies with hose attached, and a pressure from our water works, of 40 to 60 pounds, and have given the spraying a pretty fair trial, and now I am inclined to think that it did no good in causing the bees to cluster.

Bees are booming on basswood, and if it lasts a few days we will get some surplus; but if it stops now, we will be no better off than last year, unless we get a fall crop like we did six years ago.

Bees are Booming.—Moses Bailey, Winterset, Iowa, on July 16, 1888, says:

The bees are booming in my yard, some 50 colonies, and more coming. My health having been poor for the last two years, my preparations for the bees are behind somewhat, but I am in a pretty fair way to be up with them soon, Providence permitting.

Results of the Season so Far.—Abe Hoke, Union City, Ind., on July 15, 1888, writes:

I will now make my spring report. As reported last fall, I had 28 colonies packed on the summer stands in the best style that I could possibly put them, though one colony was queenless, which I expected to lose; but it began to "hibernate" in early winter, and is there yet. The balance of the bees came through to April in good condition, but then the trouble commenced. I had 6 more colonies queenless, and some that had unmated queens, all of which I had to double up with the others; the rest came through the winter in splendid condition, and at fruit-bloom one-half were strong enough to go into the sections, as they were storing honey in the brood-nest very fast. But in the middle of this jubilee we had rain; the wind shifted north, northwest and northeast, and remained until the bloom was gone. Bees made no more than a living up to about June 12; from that time to July 1, I do not think that I ever knew bees to gather honey so fast as they did for that brief space of time. What they got it from I could not tell, as our white clover was all dead, being killed by last year's drouth, or last winter, as we had very little snow. Up to this time I have had an increase of 3 swarms, one I made by division, and two natural swarms. I am ashamed of this report, but nevertheless it is a stubborn fact. If I get as much surplus honey this year as I did last, I will feel better than I do to day.

Colonies Starving, etc.—Mr. D. R. Rosebrough, Casey, Ills., on July 17, 1888, writes:

Bees are starving to death. It is very gloomy. I have not had a swarm for two years, and it looks as if it is going to be a failure this year. My bees wintered in good condition, but the spring was cold, and they did nothing until the middle of June, and then was honey dew; the bees just hummed on that until it began to rain, and then the honey-dew was gone. Starvation commenced then, as the queens had filled every part of the combs with eggs, when in a short time after, the young bees commenced to hatch out, and there being no white clover (as it all died out last fall, on account of the drouth) they had nothing to work on.

A man lives near me who had 2 strong colonies, and they looked as though there was a bushel of bees in each hive. Two weeks ago yesterday I was there, and he told me that his bees were being robbed, as the ground was covered with bees. One colony was dead, and half of the other. They did not have a drop of honey, and the bees were in wads lying aronnd as though they were numb. I told him that they were starving; after giving them some honey, they went to drawing the dead bees out of the hive, and clearing up the hive. I have heard, for the last week, of the bees swarming out and leaving their hives, so I am safe in saying that one-half of the bees have died in this township since spring opened. It will take feeding to bring them through till Spanish-needle and buckwheat bloom appears; and then if my bees get enough to winter on, it is all I will ask for this year.

In some parts of this county, where there was any linden in reach of the bees, they are in good condition, but I am out of the range of linden, there being but five trees near my bees, and when they were on them it sounded like a swarm passing over the trees. Our main crop is white clover; it looks well, but it had to come from the seed, and will have no bloom to speak of this year.

Lend a Helping Hand.—Mr. T. E. Turner, Sussex, Wis., on July 14, 1888, says:

I deem our Bee-Keepers' Union as very important to the general interest of bee-keepers in America. I do hope that more bee-keepers will see the need of such an organization, and lend a helping hand by each one forwarding his $1.00 membership fee. If only one bee-keeper is aided in defending himself against the enemies of our pursuit in each year, the general interest of all bee-keepers is subserved, and the use of the small sum ($1.00) each, annually, is justified, and much more.

Honey from the Linden.—Mrs. L. Harrison, Peoria, Ills., on July 13, 1888, wrote thus:

There has been a hard, quick shower of the nectar from basswood (*Tilia Americana*). It was like the passing of the "Salvation Army," with drum and fife, singing to martial music, "Marching on, Marching on," until the sound died away in the distance. It made me think of the fast trains on the Pennsylvania Central railroad during the Centennial year, that scooped up the water at stations without stopping. This "flying train" left in its wake every cell and cradle full of delicate nectar; no time for building cells now, even if the bees had the material, for the "flying train" passed with a puff and a blow, singing, "Hasten on, hasten on." I wanted to share with the bees some of this delicious sweetness, and got out the almost forgotten extractor. I knew there was not a spoonful of honey when this angelic visitation came, so it would be unmixed. I could not wait for it to be sealed, oh no! so with a few turns of the extractor, my eyes were gladdened once more with delicious nectar pouring out of the spout. I tied cheese-cloth over the top of the receptacles to keep out insects, and put it out in the sun to ripen, with the mercury at 100° in the shade. Away back in the seventies, Dr. Geo. Lucas lived in this city. He was an enthusiastic bee-keeper, and planted basswood trees, both the American and European varieties, and gave to his neighbors to plant, until an entire square is surrounded with this magnificent tree. He emigrated to Navada, and shortly after fell dead from the back of a horse, but he left a grand monument behind him. Every year these trees are dressed in beauty, and offer up sweet perfume in grateful remembrance. Peace to his ashes. Go and do likewise.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.
HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, @11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.
June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-lb. sections, 14c.—Dull.
BEESWAX.—23@24c.
June 14. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—We get 15c. per lb. in a small way for best comb, and less for off grades. Extracted, best white, 7@8c. None of the new crop received yet, but there is more than sufficient of the old crop for the light demand.
BEESWAX.—22c.
Jun. 30. R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@65c. per gallon.
BEESWAX—Dull at 23½@24c.
Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—No white clover left in this market. Dark slow sale at 8@10c. Extracted ready sale on arrival. New crop will meet with good demand.
BEESWAX.—23c.
July 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
July 11. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 14@16c.; 2-lbs., 13@14c.; 3-lbs., 12@13c. Extracted, white in kegs and ½-barrels, 8@8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 6@6½c. Demand good for extracted, but dull for comb.
BEESWAX.—22@25c.
July 2. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@23c.
Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: Choice new 1-lb. sections in good demand at 15@16c., not glassed; dark ones not searched; 2-lbs and extracted there is no demand for. Stock of old honey is light, and the sections are all glassed, which style the trade do not like.
BEESWAX.—None in market.
Jun. 30. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 14@16c.; 2-lb. sections, 12@13c. New Florida extracted, 8@9c. Sales are very dull.
BEESWAX.—25 cts. per lb.
July 5. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Choice new extracted, 5 to 5½c.; amber to light amber, 4½@4¾c. Choice comb in 1-lb. sections, 13@14c.; 2-lbs., 12@13c. Arrivals are small, as apiarists are holding back. Prices are considered high.
BEESWAX.—18@22c.
Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglaseed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 18c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.
June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, bright, 5@5½c.; dark, 4½@5c.; in cans, 7@8c. Comb, choice white cluver, in prime order, 13½@15c.; dark, less. Market quiet with fair demand for extracted.
BEESWAX.—22c. for prime.
Jun. 27. D. G. TUTT & CO., Commercial St.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, is now published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Pure Phenol for Foul Brood.—Calvert's No. I phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Advertisements.

FOR SALE—600 Colonies in the movable-comb hives, at $4.00 for Italians, and $4.00 for Hybrids.
25A13t G. H. ADAMS, Troy, N. Y.
Mention the American Bee Journal.

BY Return Mail—Italian and Albino Queens, Tested, 90c. each, or $10 per doz. Four-frame Nuclei, with tested Queen, $2.50. Bees per lb., 60 cts.
GEO. STUCKMAN, NAPPANEE, IND.
30Etf

ITALIAN QUEENS—Untested, 75c. each; 6 for $4.00; 12 for $7.50. Address,
26Atf John Nebel & Son, High Hill, Mo.
Mention the American Bee Journal.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

Eaton's Improved SECTION-CASE. BEES & QUEENS. Send for free catalogue. Address FRANK A. EATON,
7Etf BLUFFTON, OHIO.
Mention the American Bee Journal.

ITALIAN BEES and QUEENS.
ONE Untested Queen, $1.00; 3 for $2.00. BEES by the Pound and Nucleus. Send for Price-List.
Address, H. G. FRAME,
9E13t North Manchester, Ind.
Mention the American Bee Journal.

NEW ONE-POUND HONEY PAIL.

THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. Price, 75 cents per dozen, or $5.00 per 100.
THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,... CHICAGO, ILLS.
Mention the American Bee Journal.

CARNIOLAN

Gentlest bees known; not surpassed as workers even by the wicked races. Imported Queens, "A" grade, $8.00, Tested, $4.00; Untested, $1.00,

QUEENS.
One-half dozen $5 00
Never saw foul brood. Cash always required before filling an order.
S. W. MORRISON, M. D.,
14Etf Oxford, Chester Co., Pa.

THOS. G. NEWMAN & SON,
DEALERS IN
Bee-Keepers' Supplies,
INCLUDING
Honey and Wax Extractors,
Comb Foundation—all styles,
Bee Hives—nailed and flat,
Sections, Crates and Frames,
Kegs and Pails for Honey,
Seeds for Honey Plants,
Smokers, Veils, etc.
ILLUSTRATED CATALOGUE
free upon application.
923 & 925 West Madison St.,
CHICAGO, ILLS.

BEE-SUPPLIES, RETAIL AND Wholesale.
The Largest Steam-Power Shops in the West: exclusively used to make **Everything** needed in the Apiary, of practical construction and at **Lowest Prices.** Italian Bees, Queens, 12 styles of Bee-Hives, Sections, Honey-Extractors, Bee-Smokers, Bee-Feeders, Comb Foundation, and everything used by Bee-Keepers always on hand. My Illustrated Catalogue FREE. E. Kretchmer,
16Etf Coburg, Iowa.
Mention the American Bee Journal.

VICTOR

SAFE.

DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.
We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with sub-treasuries, book-spaces and pigeon-holes.
Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,... CHICAGO, ILLS.
Mention the American Bee Journal.

SAMPLE COPIES of the AMERICAN APICULTURIST and our Price-List of Winter Strain of Pure Italian Bees sent free. Address,
18Etf APICULTURIST, Wenham, Mass.
Mention the American Bee Journal.

HEDDON HIVES FOR SALE.
I HAVE a hundred, all complete—just finished. Purchaser given right to use them, by Mr. Heddon. Will sell at $3.00 each, in lots of 10 or more. Inquire of,
27Atf E. D. KEENEY, Arcade, N. Y.
Mention the American Bee Journal.

GLASS PAILS
FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.
Prices are as follows:

To hold 1 pound of honey, per dozen, ...	$1.60
" 2 pounds " "	2.00
" 3 " " "	2.50

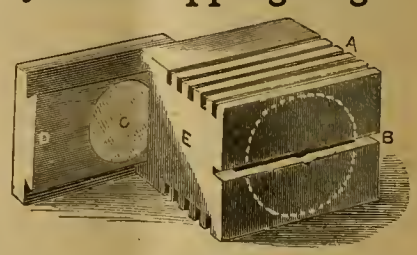
THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

LOOK HERE!
FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.
Mention the American Bee Journal.

HANDSOME
ONE-PIECE SECTIONS.
WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

HOW TO RAISE COMB HONEY,
PAMPHLET full of new and improved methods; Price, 5 one-cent stamps. You need also my list of Italian **Queens, Bees** by the **lb.**, and Supplies. OLIVER FOSTER,
13Atf Mt. Vernon, Linn Co., Iowa.
Mention the American Bee Journal.

Queen Shipping-Cages.



WE have a lot of Queen-Cages, like the one illustrated, not provisioned, which we will sell **3 for a dime**, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Aug. 1, 1888. No. 31.

EDITORIAL BUZZINGS.

The Bee-Keepers' Advance and Poultrymen's Journal has now swallowed the *Poulter*. It is nicely printed, and well gotten up. It is a matter for congratulation that all the bee-periodicals are now well printed—presenting a vast improvement in a dozen years.

J. W. Bittenbender, of Knoxville, Iowa, has sent his foundation fastener for brood-frames, and one for sections, to be exhibited at Cincinnati, O., at the Centennial Exposition, and after that to go to the National Museum at Washington for permanent exhibition.

Bees to Manitoba.—We learn from our Canadian cotemporary for June 20, that Mr. D. A. Jones, of Beeton, Ont., has made a shipment of 50 colonies of bees to Manitoba, to a point beyond Winnipeg. This is the greatest distance to which so large a shipment has ever been made. The bees were sent in combination hives, by express, and a practical bee-keeper went in charge of them.

More Recruits.—E. Lovett, Bernardo, Calif., on July 17, 1888, thus expresses himself about the National Bee-Keepers' Union:

I hope that our membership will increase during the next term. I will try and get two or three friends to join us, as it is to their interest as well as ours. If each of the members can get a friend to join and double the membership, we would then be in a better position.

Yes; that is just what every member should do—get another recruit. By so doing they are conferring a favor on the *new member*, because such a person is fully as much interested as an older one.

More "Wiley" Nonsense.—The editor of the Danville Daily *News* of July 7, contained an item stating that "comb and honey are made by machinery." Mr. J. P. Faurot, of Hope, Ills., replied to it on July 24, and showed that the story had no foundation except in the imagination of Prof Wiley. The editor of the *News* follows it with this paragraph:

We wish to do no injury to any honest industry. Our statement was, that honeycomb is made by machinery, and also honey (so-called), which is a fact. It is this fact, well-known to the people, which injures the producers of real honey, as the fact of adulterated lard, buckwheat, butter, and a long line of foods injures the producers of the real articles.

Mr. A. R. Simpson, of State Line City, Ind., sends us the paper, desiring the Union to take the matter in hand, and to demand the *proof* for the glib assertions of the *News* editor.

The Manager of the "Union" has written to the *News*, demanding the proof for the assertions—asking how he knows it to be a fact, etc.? Has he seen it? If so, where and when? Of course he is but another dupe of "the Wiley lie." The injury done by that nefarious "pleasantry" is enormous, and to bee-keepers it is very UNPLEASANT.

The Officers of the Bee-Keepers' Union are all re-elected—the exact figures we shall be able to give next week. Mr. R. F. Holtermann, of Brantford, Ont., thus expresses himself concerning the Union:

Probably no better staff of officers than the old could be secured; certainly the Union has firmly and consistently carried out, through them, its object; at the same time avoiding unnecessary litigation, which is very desirable. Whilst the officers of the Union have so ably done their work, I am afraid bee-keepers at large have not done their part, but I trust a heartier response will be forthcoming during the coming year.

Yes; it is surprising that the membership is less than ten thousand—but we imagine that a good honey year would show an enormous increase.

Wax Adulteration.—Sometimes beeswax is adulterated, but not often, for it is so easily detected. An exchange remarks that when earth or meal is used to sophisticate it, the wax becomes brittle and grayish, and may be detected and separated by melting the wax, when the impurities may be strained out. Resin makes the fracture smooth and shining instead of granula, and may be dissolved in cold alcohol, while the wax remains untouched. Tallow or suet renders the wax softer, and gives it an unpleasant odor when melted.

Mr. Jas. Heddon says: "Basswood bloomed well here, but yielded only about one-eighth of the usual crop. Clover was a total failure. The crop is light, but what there is will sell readily at good figures."

The Union.—James McNeill, Hudson, N. Y., on July 23, 1888, when sending his vote and fee for the National Bee-Keepers' Union for the ensuing year, remarks as follows:

It seems like an imposition to ask you to continue to perform the duties of General Manager, which, I doubt not, imposes considerable additional labor upon an occupation which you already find quite engrossing of your time and energy. But the Union has been so eminently successful in your hands, that I hope you will find sufficient compensation for the extra labor which the Union imposes upon you, in the thought that you have earned the hearty commendation of all its members.

Brother McNeill is right. We have more to do than we ought to undertake, but regarding it a *duty* to continue to conduct the Union's business, we cannot say No, when such a unanimous vote is given for us.

The Canadian Bee Journal, to which Prof. Wiley sent an explanatory letter concerning "the Wiley lie," and complaining of attacks being made upon him, etc., gives a good editorial answer in these words:

To make the statement which Prof. Wiley did without sufficient foundation, even though it did emanate from the authority which he says in his letter, was very wrong; and very much harm has been wrought by it to our common industry. The least that the author of the statement could have done would have been to have corrected the erroneous statement as soon as it was brought to his notice, instead of which, this is the first intimation that we have seen wherein he gives his authority for what he wrote as far back as 1881....

His delay in not before setting the matter before the people in its right light is sufficient cause for violent attack. He should have taken pains to have first ascertained the effect such a statement as the one he purposed making would have on the bee-keeping industry at large. While we give the above communication space, yet we incline to the opinion that bee-keepers will put just about as much faith in this letter as they did in his former one—which wasn't much.

The Professor need not look to bee-keepers for sympathy. They have suffered enough both in mind and purse from the effect of his nefarious "scientific pleasantry," so-called.

Open-Side Sections.—On page 467, we noticed the open-side sections of Mr. Walter S. Pouder, of Groesbeck, O. In reference to that "notice," Mr. Pouder remarks thus:

In regard to my new open-side sections, permit me to say that they can be used in the T-super, or any other super, and still be open-side sections. Please refer to the sample again; also, that they can be made of one piece just as well.

To be of any value, of course these sections *must* be made in the popular "one-piece" style. This can be done, as Mr. Pouder says. We had not put the section together when we wrote the item—having now done so, we see that Mr. Pouder is correct about their use in the supers. They are very well made, and smoothly finished.

GLEAMS OF NEWS.

Honey Prospects.—A correspondent writes us in the following very disconsolate manner:

Not a swarm from my apiary consisting of 100 colonies, and not a tea-spoonful of surplus honey this year. At least 50 of the hives are running over with bees ready for the harvest, but clover is gone, basswood is fast passing away, and the only hope now for honey is from buckwheat and fall flowers.

Apropos to this doleful account is the following from the *Bee-Keepers' Record*, concerning the season in England:

Our anticipations of an early yield of honey have not been fulfilled, and we have to record an exceptionally backward state of things in all that pertains to surplus storage. Colonies which had made splendid progress all through the month of May, have some of them perceptibly fallen off in strength, while others have barely kept up their condition of a month ago, and the complete dearth of nectar, coupled with cold nights and dull, cheerless days, have caused bees to desert surplus chambers previously being well pushed forward. It is a long time since we can call to mind a more irritating state of things from a bee-keeper's view than has been experienced during the past three weeks, in fact all through June. Sometimes we have had several bright, sunny days in succession completely lost to the bees through a steady, cold northeast wind blowing the whole time.

A forcible illustration of the way in which adverse weather militates against bee-keepers has just occurred to ourselves in this way: Within a minute's bee-flight of our apiary, was an eight or ten acre field of what should have been oats, but which, owing to the thick undergrowth of Charlock, or wild mustard, has for many days been a perfect sheet of beautiful yellow bloom, so dense that the unfortunate farmer gave up as hopeless all idea of clearing it. He was gazing at it sorrowfully one day as we passed, and could not help observing, with just a little bitterness, "*this* will suit you bee-keeping gentlemen, won't it." "Come, come now John," we replied, "you know *we* didn't plant it, but it just shows that 'it's an ill-wind that blows nobody good,' that's all." Of course we fancied that a very marked increase to our crop would result from the close proximity of such a magnificent bee-garden, but the "ill-wind" (northeast) blew so persistently while the bloom lasted, that all this sweetness was wasted, and only on two days did the bees work on it at all.

Of the season in Scotland, the same paper remarks as follows:

The month of June has hitherto been exceptionally cold. The second week opened with unprecedented snow-storms—in some parts 6 inches of snow was reported. Since then we have scarcely had a night free from frost, and this is the 20th of the month. The consequence has been in not a few instances the death of colonies from starvation, and in many the adult bees only saved themselves by devouring the juices of the grubs. The supply of pollen previously obtained having been unusually large, colonies that were syrup fed during the cold spell, kept on advancing in strength, and on the whole are not much behind usual.

Up till now we have seen no preparation for swarming. Most of our colonies are occupying two stories, one being nearly full of brood. Until honey comes in more freely we shall not use any sections. From other districts we hear complaints of backwardness, swarms being still reported "early" in the newspapers. Highland bee-keepers should look forward to a full heather bloom, which is ensured by the fine rains we have had already, and which will probably be early.

Concerning the season in Ontario, the *Canadian Bee Journal* remarks as follows:

At this date we have nothing encouraging to say as to the prospect of the entire season's crop. Up to this time the take has not been large, and as the dry weather continues basswood will not likely amount to much. In some localities there has been a fair amount of yield from clover—Muskoka has not done badly. Waterloo has come out with a medium crop, as have also the southern counties. Simcoe has nothing to boast of, as far we can learn. On the whole, there will not be over one quarter crop.

The price will, however, be in proportion, and we strongly advise all who have honey to sell, and who can do so conveniently, to hold it until the fruit season is over, and then to ask a reasonable price for it, commensurate with the supply.

If "misery loves company," it may have considerable of it this year—for, on the whole, so far, it has been the poorest of all the poor years immediately preceding it. But such comes occasionally to all pursuits, and is usually followed by a *booming* season, so that we may reasonably expect such a refreshing time next year. Let us hope that its realization may be duly and promptly enjoyed.

Swarm of Bees in a House.—This is how a newspaper reporter "dishes up" an item for the press concerning the antics of a swarm of bees:

While S. S. Brown, of Long Island, was at lunch with his family, the doors and windows being open, a swarm of bees entered and made themselves at home on the furniture and bric-a-brac, and inspected at leisure the food on the table.

Mr. Brown, his two daughters, and a friend from New York, who had precipitately retreated from the house, rallied some of the neighbors and returned. The bees being still in possession, a counsel of war was held.

Some wanted to attack them with noise, and some with brimstone, while others argued that brimstone would make fearful odors, and a terrible mess with dead bees. Loud shouts, pounding on pans and kettles and all that sort of thing, would possibly result in the enemy making a bayonet charge that would be disastrous.

It was decided to give them a little more time, and the family found refuge in an adjacent building. Some of the neighbors finally got tired of this, put covering on their faces and hands, built fires in the grates, covered the chimneys and smoked out the visitors.

The buzzing began to increase again, and the bees migrated. It has not been ascertained where they came from, or where they went to. The walls, ceilings and curtains of Mr. Brown's residence were considerably soiled by the insects. The number of bees is estimated to have been between four and five thousand.

The Augusta, Georgia, National Exposition for 1888, opens Oct. 10, and closes Nov. 17.

The British Bee Journal, our esteemed cotemporary in London, was deceived by the statement of the Dairy Commissioners of New Jersey, in reference to the adulteration of American honey, as shown on page 387 of the AMERICAN BEE JOURNAL. The matter receives attention in the last number of our British cotemporary, in this manner:

Our article was written in the interest of bee-keepers and bee-keeping, and we have never hinted that bee-keepers ever adulterated honey, and we should repudiate such an idea quite as strongly on behalf of our American cousins as our friend the AMERICAN BEE JOURNAL does....Our object is to protect the interests of bee-keepers, be they English, American, or of any other country, and we should not be doing our duty if we did not expose what we knew was doing them harm. If it is shown that the whole thing is a hoax or a trick of trade, we shall give it every publicity.

We have no desire to prolong this discussion, but will say that we are very glad to learn that the *British Bee Journal* desires to protect the interests of American bee-keepers—which, from its former articles, we were led to doubt.

Still Another.—In the *Farm, Field and Stockman* of last week we notice this:

Of the several hundred samples of honey examined at a late meeting of the St. Louis Society of Microscopists, not one was imitation, but the majority of them were adulterated with such stuff as glucose, grape sugar, etc.

The State chemists and microscopists are apparently making a raid on honey just now—to try to crush its use, and drive it out of the market. It is very sure that they are talking of something they know nothing about.

The fact is, that honey produced on different soils and under various climatic conditions, differs so much in its constituent parts that no one can *with positive certainty* decide upon its purity.

This fact accounts for all the floundering among the chemists and microscopists when they attempt to decide on the purity of honey.

To believe the assertions made by this St. Louis Society, we must admit that more than one-half of the honey on the market is adulterated, very many of the honey-producers and all the honey dealers are frauds!! A thing which will be utterly repudiated by honey-producers universally. They may not be *more honest* than other men, but they certainly are *not* more fraudulent. We know hundreds, and perhaps thousands, who would *rather die* than to perpetrate frauds upon innocent purchasers of their products.

A lazy, careless, slovenly Person will fail in bee-culture as in everything else. There can be no harmony or feeling of sympathy between such a person and this marvelous insect, whose name, for ages past, has been emblematic of industry. So says an exchange.

Honey Crop of California.—Mr. J. S. Harbison, the celebrated apiarist of southern California, was interviewed by a reporter of the San Diego *Union*, relative to the report about a large crop of honey being gathered this year in that State.

The report in the *Commercial Bulletin* was represented as being derived from conversations with men prominent in business circles of California, and the substance of it was that honey is going to be cheaper and more plentiful this year than ever before. Particular attention was called to San Bernardino and San Diego counties, where it was reported that honey had opened at low prices, and that 3½ to 4 cents would be the maximum price.

This report, Mr. Harbison said, was, to say the least, a most remarkable statement, probably written in the interest of brokers' firms, and is a fair specimen of a "bear trap." He then added :

The truth is, that not one-half as much honey will be gathered this year as have been in some years past. The spring bloom, which should yield one third of the total crop of the year, has gone by, and it yielded but little honey. Owing to the long-continued cold weather, the bees in the mountain ranges had hardly made a living up to June 1, and now only about 60 days remain for the flowers and the storing of honey.

Even if the weather is favorable from this time on, the honey gathering cannot be large. Another reason why the report referred to must exaggerate the amount of honey in this season's crop, is the fact that there are not at present half so many bees in southern California as there were six years ago, and the supply of sage and other honey-furnishing shrubs has been diminished at least 50 per cent. by the clearing up of land.

Moreover, the low prices at which honey has been sold for some years past have destroyed the incentive to care for and work the remaining bees to their full capacity, and the supply this year will not glut the market.

Arrangements have been made, however, for the handling of the honey crop in this county, which will insure better returns to the producer than they have received in years, and the honey industry here be stimulated.

A Swarm on a Man's Hat.—Mr. E. C. Jordan sends us the following from the *Record* of July 19, 1888, published at Rustburg, Va., as a supplement to the circumstance mentioned on page 468 :

Mr. W. E. Ballard, in conversation with us about the bees swarming on the cow's back, told a little of his own experience. He was in a field with several other persons when a swarm of bees came over. They resorted to the usual methods to induce the bees to settle ; ringing bells, beating tin pans, etc. Mr. Ballard soon found the bees settling on his hat. He did not like the proximity, so he quietly took off his hat and laid it on the ground. The whole swarm soon settled upon it. They were hived and taken home.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

INTERROGATORIES.

Hill's Device.—H. S. Ball, Granby, Quebec, on July 19, 1888, asks thus :

Will you inform me through the AMERICAN BEE JOURNAL the best device for putting over brood-frames, to give space above the frames for wintering. How much space is required ? How is this device constructed ?

Hill's device for covering frames in winter is placed over the frames and under the cushions, and forms a chamber for the bees to cluster in, and permits them to pass freely from one comb to another, even during a shady zero freeze. It consists of four pieces of half-inch basswood strips sawed on a curve that would make a circle of about 11 inches in diameter ; the two middle ones being 9 inches in length, and the two outer ones 8 inches. These are held together by a strip of hoop iron about a foot long, holding the ribs about 4 inches apart. The hoop iron runs parallel with the brood-frames.

No Nectar in the Flowers.—Henry Stewart, Prophetstown, Ills., on July 19, 1888, makes this inquiry :

Are there any scientific principles known in reference to the formation of nectar in flowers ? If so, why under the apparent favorable circumstances, has the white clover and other honey-producing plants yielded so little bee-forage ?

Unfavorable atmospheric conditions, as well as the direction of the wind, often account for the lack of nectar in the flowers. Rain also will apparently wash out the nectar from the opening buds. Last season's drouth dried up the clover in many parts, and the weak and sickly growth of this spring yielded no bloom worth mentioning —now it looks like blooming again.

What Ails the Bees ?—Mrs. Ada Dorsey, Holliday, Mo., on July 18, 1888, asks the following question :

What ails my bees ? In search of queen-cells to cut out, yesterday, I found that four of my young colonies of bees were diseased. I do not know what the disease is. The old bees are well, and working right along, but the uncapped brood are dead in the cells, and the bees do not seem to be cleaning them out. Please answer through the BEE JOURNAL, as it may benefit some one else as well as myself.

It is evidently what is usually called *foul brood*. Remedies were considered in our issue of July 18.

Foul Brood.—P. M. Aldrich, Fairmont, Nebr., on July 19, 1888, asks the following question :

About three-fourths of the bees in this vicinity have died from foul brood ; and in Grafton, seven miles west of here, quite a number of colonies died last year. I think that the hives were left on the stands, not knowing what had killed the bees ; and nearly all are dying this year. I watched mine, and those near me, and killed and burned them as soon as I found it in a hive. Please tell me if I did right. Do you think that there is a cure ? I have not seen a sign of it among my bees this season. I had 25 colonies left from 60 last year. They are swarming and doing finely now.

You did just as we should have done, upon discovering the disease in our apiary. We have but little confidence in the so-called cures for foul brood. The editor of the *Canadian Bee Journal*, giving his experience with foul brood, says : "Last season we experimented with phenol, as did also Mr. A. I. Root, and neither had the success which would enable us to recommend it as a permanent cure. It did relieve, and to a certain extent cure, the colonies afflicted, but we could not depend upon it as lasting."

Mr. A. I. Root says that if he should own a small apiary and discover foul brood in it, he would burn up the whole rather than endeavor to experiment in curing the disease. If the larvæ be elastic and ropy, it is a sure indication of foul brood. This is a sure test, but the odor is not to be relied upon. Fire is our favorite remedy.

Lost Twenty Dollars.—The Rev. John Nemmers, of Gilbertsville, Iowa, on July 14, 1888, gives a little of his experience in these words :

If I had subscribed for the AMERICAN BEE JOURNAL two months sooner, I would be $20 better off than I am now ; and if I had sooner known what a good and instructive paper the BEE JOURNAL was, I would have been a subscriber long ago.

The experience of our reverend brother is but a counter-part of hundreds of others, who lost money by not knowing what was going on in the apicultural world, by not taking the AMERICAN BEE JOURNAL.

A Californian, in *Gleanings*, says that a sick man planted a little hoar-hound, intending to use the product in making tea for the cure of his ailment. Wind and water and sheep have scattered the seed abroad, and the plant flourishes far and near. The writer says his bees have access to it, but complains that the honey they make is strong, dark, granulates easily, and is bitter. He offers his honey at five cents a pound. Possibly the hoar-hound honey may be utilized by hoar-hound candy makers, and for medicinal syrup with that flavor.

The Tri-State Fair (Ohio, Michigan and Indiana) opens at Toledo, O., Aug. 27, and closes Sept. 1. Dr. A. B. Mason is superintendent of the Apiary Department. The premiums amount to $87.00. Those interested should send for a premium list. Address, John Farley, Sec., 209 St. Clair St., Toledo, O.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

QUERIES AND REPLIES.

Terrible Mortality of Bees in Winter.

Written for the American Bee Journal

Query 564.—During December, January and February of the winter of 1884-85 I lost 700 full colonies out of 900, located in five apiaries. Some were dead without breaking the cluster, and others had their noses up all around the lid, and were scattered all over the hive. The frames and combs were badly smeared with excreta, where there were a few bees and queen left. I closed them up on what frames they would cover, but they nearly all either swarmed out on the first nice spell, or dwindled so low that they died in the cluster during slight cold spells in March and April. The winter of 1885-86 was the same, with 600 colonies. The winter of 1886-87 all of 400 colonies came through to February. They commenced dwindling then, and went down one-third, leaving the balance weak, and although I had plenty of good combs and honey, I could not build them up. The past winter has been the same. I have some 15 or 20 colonies that have withstood all these winters, and have come out good every time, under the same conditions. 1. Have you had this experience? 2. What is it? 3. How can I stop it?—Illinois.

I have had no such experience.—P. L. VIALLON.

I have had nothing like it.—G. M. DOOLITTLE.

It would take a book to answer this. Read the articles on wintering bees.—DADANT & SON.

That is a puzzle. I give it up.—C. H. DIBBERN.

1. No. 3. I do not know of anything to say in reply, unless to go over the whole ground covered by books and papers, and you probably have all that.—C. C. MILLER.

I am unable to divine the cause or suggest a remedy. Go to some good bee-man near you, and see if he cannot help you solve the problem.—EUGENE SECOR.

1. No. 2. Diarrhea, and very bad management. 3. Construct a good bee-cellar for each apiary.—MRS. L. HARRISON.

1. On a much smaller scale, yes. 2. I cannot answer unless I knew all the conditions. 3. I have lost but very few colonies except by starvation since I have left the entrances wide open all winter.—M. MAHIN.

1. I never experienced the loss of 1,300 colonies in three winters, but I have had "frames and combs badly smeared with excreta," etc. 2. That was diarrhea. 3. It can be stopped by giving proper food and the right temperature. Read what the AMERICAN BEE JOURNAL has said on this subject during the last three years.—A. B. MASON.

1. From your description I am forced to the conclusion that your bees gather honey that is not suitable for wintering. I would try removing it, and feed granulated sugar syrup. 2. It is bee-diarrhea.—J. M. HAMBAUGH.

1. No. 2. If all the other conditions are favorable, it is the result of unwholesome honey. 3. Extract all fall honey, and feed granulated sugar syrup.—J. P. H. BROWN.

1. No. 2. I should think that your trouble was in the honey. 3. Feed sugar syrup to a few colonies, and see if it will not make a change.—H. D. CUTTING.

1. To some extent. 2. The common trouble—diarrhea. 3. By giving the bees sound stores for winter, and wintering them in a cellar with a temperature of about 40°, Fahr.—R. L. TAYLOR.

1. Yes, I have. 2. It is bee-diarrhea. Bees never spring dwindle when they are entirely free from that complaint. 3. You can prevent it by having no bee-bread in the combs which the bees winter on, nor any honey, but properly prepared sugar syrup, instead.—JAMES HEDDON.

3. I believe that a good cellar would stop it—a cellar where you can keep the temperature above 38°, Fahr. I believe with a proper cellar and proper food we need have no loss.—A. J. COOK.

I would get a stock of bees from some one who has not been troubled in this way. I would rid myself of these old bees entirely. I would not ask, "What is it?" It does not pay to doctor bees. Get rid of them, and get healthy ones. If they become diseased in the same way, change the location.—J. M. SHUCK.

Mr. Heddon will say, "Pollen theory." Some one else will give another cause. For myself, I can only say that I do not know, as the data given is not sufficient to enable me to give an intelligent answer. For a guess, I should say the cause was either insufficient food, or food of poor quality.—J. E. POND.

The only thing peculiar about your disastrous wintering of bees is found in your statement, that "15 or 20" of your "colonies have withstood all these winters." This would indicate, at least apparently, that the constitution of the bees had something to do with the different results. Please give us the particulars. What sort of stores did they have? How were the bees prepared for wintering, etc.? 1. No. 2. Echo answers, "What is it?" 3. That is the question.—G. W. DEMAREE.

We should surmise that the cause could be located in the winter stores. To extract all the honey in the fall, and provide good sugar syrup would probably prevent a repetition.—THE EDITOR.

Wet and Moldy Combs in a Bee-Cellar.

Written for the American Bee Journal

Query 565.—In my bee-cellar I am very much troubled with the combs getting wet and moldy. The temperature does not vary much above or below 40°. 1. Would sub-earth ventilation improve it? or would it be best to put in a stove? 2. If sub-earth ventilation would be a good thing, how far ought the pipes to extend under ground?—H. H., Ills.

I have no experience in this.—P. L. VIALLON.

We would use a stove in the coldest weather, or not use the cellar at all for bees.—DADANT & SON.

I think that sub-earth ventilation would answer. Fully 50 feet—more would be better—and below the reach of frost.—J. P. H. BROWN.

1. Put in a small stove, and use open boxes of air-slacked lime.—H. D. CUTTING.

Raise the temperature to from 45° to 48°, by some means, and you will be all right.—G. M. DOOLITTLE.

1. Either or both might help. 2. Two hundred feet, if the pipes are 6 inches or more in diameter. If 4 inches in diameter, 100 feet long.—C. C. MILLER.

1. I presume that sub-earth ventilation will benefit your cellar. 2. I am not authority on this. Correspond with Mr. G. M. Doolittle.—J. M. HAMBAUGH.

Thorough drainage and ventilation will do it. For the purpose mentioned, sub-earth ventilation is not necessary.—A. J. COOK.

If your bees winter well, I advise you to leave your cellar as it is. If the mold frets you, give the bees more ventilation from the bottoms of the hives, and raise the temperature of your cellar 4° or 5°, by packing the outside windows, etc., better.—R. L. TAYLOR.

1. I should put in the stove. 2. I am not in favor of adopting sub-earth ventilation. It costs more than it amounts to.—JAMES HEDDON.

1. Yes, I believe it would. If that is too expensive for the number of colonies kept, use artificial heat. 2. Two hundred feet would be desirable, but perhaps a shorter distance will answer.—EUGENE SECOR.

Dampness is a common condition of cellars in this (Kentucky) climate. No doubt but the changeable condition of climates is the cause. When the air outside of the cellar becomes warmer than the air contained by the cellar when it enters the cellar and comes in contact with a lower temperature than itself, it parts with a portion of its moisture by condensation, and thus

dampness accumulates in the cellar. 1. No. Put in a stove and heat up the cellar to a high temperature about once a week. Keep up the heat for a whole day, and then leave the bees quiet till next time. Some experiments of mine have proven this plan the best of all to counteract the deadly effects of continued dampness, etc.—G. W. DEMAREE.

1. Sub-earth ventilation would improve it, and without knowing the conditions and surroundings of your cellar, I think that I should prefer it to a stove. 2. It should enter the cellar under the outside wall, and cross to the opposite side of the cellar.—MRS. L. HARRISON.

Raise the temperature. I like to ventilate with a stove, without a fire. Of course, if the temperature is too low, have a small fire. A little looseness around the pipe where it goes into the chimney does for upper ventilation, and the draft at the stove's bottom does for lower ventilation.—A. B. MASON.

1. It may be that sub-earth ventilation would be an advantage. 2. That depends upon circumstances. If it is easy to keep the temperature up to what it ought to be, the pipes may be very short.—M. MAHIN.

1. You say nothing about hive-ventilation. I have never found that moisture injured where hives were properly ventilated. 1. Do not put in a stove. 2. Extend the pipe far enough so that the temperature will not be affected.—J. E. POND.

1. Sub-earth ventilation will improve it very much. The temperature is all right. 2. The pipes ought to extend 50 to 100 feet. Do not put in a stove, as it is difficult to keep an even temperature without great trouble. —C. H. DIBBERN.

1. Ventilation is needed wherever there is mold. Such a cellar should be disinfected by the fumes of burning sulphur before putting in the bees for winter; and if the rooms over it are inhabited by human beings, it should be fumigated *often* during warm weather, unless corrected by ventilation. 2. A sub-earth pipe should extend 150 to 200 feet under-ground.—J. M. SHUCK.

Either the addition of a stove, ventilation, or good drainage will remedy the difficulty. Outside protection will raise the temperature in the cellar, and make it more suitable for the bees. —THE EDITOR.

☞ The fall meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held on Aug. 21, 1888, at Leaf River, Ills. D. A. FULLER, *Sec.*

CORRESPONDENCE.

FINDING QUEENS.

How to Proceed when Looking for the Queen.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

Many seem to be troubled in finding the queen, not a few writing me to that effect, and asking how I proceed in that work.

One of the most important things to be remembered in looking for a black or hybrid queen is, not to use too much smoke so as to get the bees "crazy," so that they will run pell-mell all over the hive, and even outside of it; for with such a state of affairs no one is very likely to find the queen, and the hive might as well be shut up without trying.

Go to the hive and remove the cover as quietly as possible, so as not to disturb the bees the least bit, if you can do so. Now as the quilt is raised, blow the least bit of smoke under it, and after it is removed, keep for a moment or so, blowing just a little smoke on the guards as they poke their heads up over the tops of the frames—just enough to turn them about again, and no more. In this way you will soon have all quiet and nice, no running or anything of the kind.

Having thus brought them into subjection, you are ready to proceed; but before doing so, I wish to say that there is a proper time of day to do this hunting for the queen, and that time is governed by the way the hive is placed, or faces. As my hives all face south, we will suppose that we are in my bee-yard, and in such case the time will be at from 11 to 12 o'clock. Now, why this? Simply because at this hour the sun shines so as to obliquely strike the east side of the combs, as these run with the entrance to the hive.

One other thing: As the sides of any queen is much more yellow than her back, a queen is much more easily seen when looking obliquely on her, than when looking squarely on the comb or on her back, and as she walks about, while looking at her in this manner, her abdomen is sure to attract our attention, thereby causing us to see her when we would not otherwise do so. Having explained this matter so, I think, all will understand it, we will take out the first frame next to the east side of the hive, standing or sitting on that side.

For various reasons I prefer to sit down when hunting for the queen, chiefly because it brings the eyes in a more natural position for seeing over the combs.

To get the first comb out, if the hive has not a movable side, commence four or five frames away from the side next to you, and with a heavy knife or screw-driver loosen the frames, pushing them a little from you so as to gain room to lift out the first one without injuring the bees so as to irritate them. Whenever the bees come up on the frame tops in a threatening manner smoke them a little, gently as at first, thus keeping them in subjection, yet at no time give enough smoke so as to thoroughly frighten them. A little experience along this line will enable one to handle even the most vicious hybrids without stings or getting them excited.

Having the first frame liberated, gently raise it from the hive, looking over the side next to you as it comes out, for the queen, and as soon as it is out look over the other side, by looking down obliquely from the top. Having made sure the queen is not on this frame, put it down outside the hive, or have another hive to place it in. In time of robber bees, the hive is best, throwing a sheet over it to keep the robbers off this exposed comb, but at all other times I put the combs on the ground outside of the hive.

Now remove the next comb, and as quickly as it is out of the hive, glance down the face side of the comb next to you in the hive, and if the queen is on that side of the comb, you will surely see her, for her first impulse is, upon the light striking her, to get on the other side of the comb, and in doing this she shows herself to a much better advantage than she would if she kept still, the sunlight making her appear "as natural as life, and twice as big."

As soon as satisfied that she is not there, look on the other side of the comb you hold in your hands the same as before, and if the queen is not found, put this also in the hive with the first, or on the ground.

Now proceed with each frame as you did with the last one, bearing in mind that there is no need of looking at the side of the frame next to you after it is taken from the hive; for should you miss seeing the queen when looking down on the comb as it stands in the hive, she would, if there, get around on the inner side before you got to taking it out.

After two of the combs are out of the hive, I usually set the next on the side of the hive the colony occupies, which is next to me, for with two frames out, the sun can shine down between the combs as well as if more were out. In this way it is a

rare thing that I miss a queen in going over a hive, but if I do, I never try longer at that time, but close the hive and try again when the sun is right another day.

To show what can be done, if the above course is pursued, I will say, that in six hours, during the middle of the day, I have found and clipped the wings of 40 black and hybrid queens, for a party who had concluded that he wished his queens' wings clipped ; and I have reason to believe that any one can do as well after a little practice along this line.

To keep the sun just right, wheel the hive around a little, one way or the other for the time being, where you have to work five or six hours at a time.

Borodino, N. Y.

SAVING HONEY.

Removing Queens to Save Honey Consumption.

Written for the American Bee Journal

BY ALEX. W. STITH.

As nearly all persons now seem to be desirous of something new, I will describe a method by which an apiarist may secure (or rather, save) many pounds of honey, and at the same time not injure a colony of bees, and as far as my knowledge extends, this idea originated entirely within myself.

It would be almost as reasonable to permit a number of harvesters to remain boarding with us, after the harvest is over, as to have a surplus of bees reared during the latter part of June, and the first part of July, which bees will only answer as consumers instead of producers, as bees at this time of the year will only create a home market for honey, in the way of consumption in rearing brood, which is only necessary at certain intervals during the season.

All practical bee-keepers in Kentucky well know that here our surplus honey is usually gathered in a period of about six weeks, and after this time has elapsed, a surplus of bees is only detrimental to the welfare of a colony of bees, as well as to the apiarist. To obviate this difficulty, about the middle of June I kill all of my queens that are three years old, and such others as do not exactly fill the bill, regardless of age ; and for those that I wish to retain, I prepare empty hives of sufficient size to accommodate three frames of brood.

I then remove the queens from the old hives, together with three frames of combs containing brood and adhering bees, and put them into new hives or nuclei. The colonies from which the queen are taken will at once proceed to build queen-cells ; and those colonies should be examined every ten days, and all queen-cells destroyed ; at the same time exchange with them a comb of brood and eggs, taken from some of the small, or nuclei colonies, containing a queen, to prevent the appearance, or presence, of fertile workers, which often infest colonies that are long queenless, without the necessary material, such as eggs or larva, from which a queen can be reared ; and as the queens in the nuclei have only use of three combs, consequently only a limited amount of brood can be reared.

I let the queens remain as described for a period of six weeks, and at the end of this time, the queens can usually be introduced to their future habitation, by placing the three combs, queen and all together, near the center of the hive, provided, however, there are no queen-cells remaining in the old hive at the time of introduction, or, for a certainty, the queens may be caged for 24 or 36 hours. The only objection that could be urged against such procedure is, the extra labor in manipulating, but I have experimented far enough in this line to be thoroughly convinced that the amount of honey thus saved will richly repay the apiarist for the necessary labor required.

In order to make the matter more plain to the reader, suppose that we figure a little, and that an apiarist has 50 colonies of bees, and that by the method above described, one pound of honey per colony is saved each day that they are thus queenless, which is surely a very low estimate ; and allow one week of the time for most of the brood in the old hives to be sealed, and say they are allowed to remain queenless for 5 weeks or 35 days. Now 50 colonies at this rate would in 35 days save 1,750 pounds of honey, which, at 10 cents per pound, would amount to $175 ; and counting $50 expense for nuclei hives, $15 for extra lavor, and say $10 for perhaps a loss of a few fine queens, it will be seen that we have the nice little sum of $100 left by the experiment.

The first thing that drew my attention to the perceptible difference in the amount of honey in the hives that remained queenless for weeks, and those that had queens, was made manifest to me as a queen-breeder, by removing queens for the purpose of queen-rearing ; and I am so honestly convicted that if the above described method be strictly adhered to, the most fastidious will be convinced.

Portland, Ky.

BEE-SENSE.

Bees do Select a Location Before Swarming.

Written for the American Bee Journal

BY GEORGE POINDEXTER.

Having hunted bees for more than thirty years, and started my apiaries from the wild bees captured in the forest, I am armed with experience and observation enough to satisfy me that bees do locate a home before leaving the parent hive ; and also after they do leave, some will go direct to the tree or hive that has been cleaned out by the scouts. I have given them chase direct to the tree, cut the tree within half an hour, and found the hollow clean and varnished with propolis.

Some swarms leave, not knowing anything of a future home, and will fly until tired out, and alight on any object that comes in their way ; but if exposed to the hot sun or rain, they will get up again and go to a more favorable place. Then in obedience to the instinct imbued within them by nature's law, they leave the cluster in almost every direction, by the hundreds, in search of a home. Then they will be found cleaning a half-dozen different places at the same time, but they will accumulate the strongest at the most favorable hollow, and when the swarm "breaks camp," a quart or more of bees will be found hanging where the swarm had left ; these are the scouts that were clearing other trees, and not knowing the location of the swarm, they stay there until they dwindle away and finally disappear.

Some swarms alight on a limb of a large tree, in a fence-corner, or in a grape-vine, and being full of honey before the scouts find a suitable location, they start combs, and then the scouts cannot entice them to go, as the queen has laid a few eggs. I have found bees in all of these places, but I have never found any honey in such combs ; yet I have thought they sniffed the battle from afar off, and never thought it worth while to gather any honey except for present use, as they would only leave it for the raccoons to enjoy.

I have transferred them to frame-hives, from their open-air hive, and in 2 or 3 days the combs would be full of honey. Some swarms will clean out a hive with the intention of swarming, but the weather or honey-flow will make a change in the programme. I have seen scouts clean out a hive and stay at the entrance for 3 or 4 days, evidently waiting for the decision at home, and if any intruder comes

around on the same mission, they pounce upon her, and by physical force settle the question of priority of location.

Kenny, Ills.

SHIPPING-CRATES.

Historical and Practical Consideration of their Use.

Written for the American Bee Journal
BY JAMES HEDDON.

After we have procured the best white, hard wood sections, another main factor in the successful marketing of comb honey is, to clean those sections from bee-glue, and place them in such crates as will show them to the best advantage and most perfectly protect them, from the time they leave the hands of the producer until they are removed by the retailer or consumer.

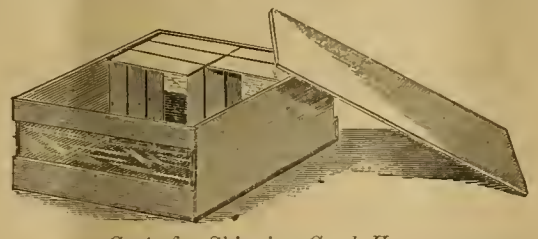
Soon after the invention of sections, the "necessity" for a shipping-crate for them, became the "mother of invention" in that line, and the first we knew, Mr. Doolittle, or some of his neighbors, had made, used and described a crate for holding them. I sent for one. It came as described, rather roughly made of pine, and the following is a description: It was made to hold twelve two-pound sections, which were placed endwise with the case, four in a row sidewise, and three in a row endwise. The tops and bottoms were rightly made of ⅜ material of proper size. The end pieces were about ⅝ of an inch thick, if I remember correctly, nearly square with the grain running horizontally. The sides were composed each of two slats about ⅜ of an inch thick, and an inch and a quarter wide, the ends of which were nailed to the ends of the end pieces at their upper and lower corners.

Now, to get in the glass, saw-cuts were made in the corners of the end-pieces, and a pane of glass as large as the whole side of this crate was slipped down in this groove. Hand-holds were cut with a wabble-saw in the end-pieces of the crate. No sooner did I look at it, than improvements suggested themselves. These short end pieces, wabble-sawed almost in two, might, if the material became checked or got a bump, come in two while carrying honey, and of course the remaining whole end would give away at once, and down would go the contents. The slats on the sides of the crate were so narrow that they showed more of the honey than was necessary, or than was sometimes best to show to make the best impression on first sight.

I made the side slats wider. "Why use so much glass?" said I. Then I made the saw-cuts in the slats instead of in the end pieces, using about half the amount of glass. I think this was the first time glass was ever slid into the slats instead of the end pieces. This soon became popular. It made the case more solid and nicer in appearance, and with less expense.

Next I began to use pound and half-pound sections of varying widths as follows: Six to the foot, seven to the foot, and eight to the foot, and "coined" the term of so many "to the foot." I made half-pound sections the same height as the pound, and just ⅞ the width; not thickness of the comb, but width of the comb. For instance, a wide frame which held just four one-pound sections seven to the foot, would take six half-pound sections seven to the foot. The half-pound sections over-run, while the pound sections fall short in weight, but this is all right, especially where they fall short.

We always sell all sections by weight, both at wholesale and retail. This led me to make another alteration, which was to make the sides of the crate whole, placing the slats and glass in the ends by making slats half inch thick, and having the bottom and cover flush with their outer edges, they serve for handles. When we handle such a crate, the combs are always run to and from the body just as they should, and the crate is in the best shape to handle.



Crate for Shipping Comb Honey.

The engraving shows the crate described, which is 12½ inches long, 8⅝ inches wide, in the clear, and takes five different sizes of sections, all of which fit perfectly. It holds twelve sections 4¼x4¼x2, or six to the foot; 14 sections 4¼x4¼ by seven to the foot; 16 sections 4¼x4¼x1½, or eight to the foot; 21 sections 4¼x2 13-16 by seven to the foot; 24 sections 4¼x2 13-16 by eight to the foot.

The reader will see that this crate was not only a radical improvement in its simplicity and cheapness, but likewise in its strength and convenience. The crate is just as long as our storing cases are wide, and should it ever happen that a whole row of sections, by accident, become "grown" together, they could be taken out *en masse* and be put into this crate. Although we have never had a case of the kind, we have seen such in other apiaries.

A minor mathematical convenience arises from the fact that just one storing-case fills two shipping-crates of honey. One-story crates are best on account of any possible leakage, and one of the great advantages of this small crate is, that any quantity of honey is sold direct from the producer or jobber to the consumer. Make these crates of white basswood, and dress all parts on both sides, so that they are handsome without, and easily wiped within, in cases where any leakage occurs.

The material for these cases of the quality I mentioned, will in most localities cost about 10 cents each in the flat, and the glass about a cent per light. Of course these figures will vary according to the location of the manufacturer. I have found less trouble from breakage, the smaller I have made my shipping-crates. I think I can safely say that in past years I have shipped more than 50,000 pounds of honey in these crates, and have never had any breakage whatever, except two crates, which were promptly paid for by the railroad company. By freight is the cheapest and safest way to ship. I am confident that this style of shipping-crate now used by so many of our leading producers, will not be soon superseded by any other.

Dowagiac, Mich.

BEE-KEEPING.

Fogyism and Fertile-Brained Reporters its Injurers.

Written for the American Bee Journal
BY HENRY K. STALEY.

Within the last decades, what business or pursuit has had a greater development and metamorphosis than that of bee-keeping? Commencing with the old primeval gums, and going through the various kinds of hives, until finally culminating for a time in one glorious achievement, viz: the invention of the reversible hive, with its concomitant fixtures. This hive, like Eli Whitney's cotton-gin, is a great time-saver—especially to those who are pursuing apiculture as a bread-and-butter pursuit.

Down in the dingy cellar of Mrs. Green, Eli Whitney toiled nearly all winter, tinkering away on his invention, until he finally machinated the cotton-gin. It has been said, that to get one pound of clean cotton, without wasting any, used to require a whole day's labor; but Whitney's cotton-gin, instead of taking a handful at a time, could take bushels, and do more work in one day, and neater at that, than 10 men could do in 20 days. Hence it has been well said, "The Southern seaports were heaped high with cotton," which, but for him, would never have been grown. And so with respect to apiculture, we can say that the invention whereby the manipulation of hives instead of frames can be had, will render the saying,

"Full many a flower is born to blush unseen,
And waste its sweetness on the desert air,"

untrue to a great degree, albeit it is a poetic jewel.

Invention of the Movable-Frame Hive.

The firm beginning of this vast transformation was made by one stroke, and that was the invention of the movable-frame hive, which, with its paraphernalia following soon after, put bee-keeping upon stanch feet, so that it could become a pursuit capable of giving a person a livelihood, and followed as a money-making occupation, thereby catering employment to thousands of people over our grand and glorious globe.

Yet, within the shadows cast from the burning and light-giving lamp of bee-lore, prevails the oozy, green-scummed, stagnated fogyism, accompanied with sophisticated stories anent bees, emanating from the fertile brains of reporters (fabricators of cock-and-bull stories), who, in their mind's eye, see honey-comb fabricated from paraffine, filled with honey obtained from the parings of rotten apples, and capped over with a red-hot poker, *just as the bees* do it; and yet they say these things in the face of great rewards, offered to any one who will find the place—but, alas! it seems that it never can be found.

Persistence of Fogy Bee-Keepers.

The old fogy still persists in keeping bees in box-hives (maintaining that in the manpulation of frame-hives many bees are killed), who, if his cerebellum had any power at all toward taking all sides into consideration, would find his idea ridiculous nonsense, when compared with the thousands of bees lost annually by box-hive bee-keepers during the interval of the swarming season. Moreover, he cannot remedy the *lusus naturæ* among his bees, control the queen, clean out moth-worms, and so forth; and yet they still use box-hives (fit breeders for the confounded bee-moth), following in the path trodden by their great, great grandaddies, who, if they went to the mill with the grain in one end of the sack, and a huge stone in the other, to balance it over their shoulders, still seem to believe in following out by not becoming cognizant of the great and useful modern inventions in our pursuit.

Fogyism is a ban to bee-keeping, because many uninitiated, when they embark in that pursuit, through it are caught up into the flexible web of ignorance, and failing to see their mistake, continue in it. It is the coadjutor of fertile-brained reporters—the bunko-steers of apiculture. They feed their taffy (made-up lies) to the open-mouthed ignoramuses, who stand like gawkies and "take it all in," as corn-cracker farmers are bamboozled in the city of Cincinnati. The consequence is, the rumor—that comb honey (the partitions between the cells being 1-180 of an inch thick) is made by hand—flies like wild-fire through our cities, magnetizing and surfeiting on all the compatible material that it can find, becoming more and more portentous as it goes. Its journey is well described in the way Virgil did the supposed nuptials of Dido and Æneas, thus:

Extemplo Libyae magnas it Fama per urbes,
Fama, malum qua non aliud velocius ullum,
Mobilitate viget, virisque adquirit eundo:
Parva metu primo; mox sese attollit in auras,
Ingreditus que solo, et caput inter nubila condit.

Think of it, in the United States (where, during the year of 1884, 20,297 patents from the Patent Office at Washington, were issued), such ignorance should continue! Fogyism is a drawback to the process of inventing in bee-keeping, the which (inventing) is breathing dephlogisticated air under the sickly ribs of umquhile apiculture, and through its arteries sending renewed strength to every branch thereof. The limners (inventors) of our pursuit have already environed its head with the nimbus of fame, and placed the aureola of glory around its body; but nevertheless we cannot expect the end desired to be gained in a second.

Hardships and Triumphs of Inventors.

"Procrastination is the thief of time," and until we collar him we must take our dose of being jeered at as other inventors. It was thus with poor Johnny Fitch, who devised and invented the steamboat. He was rich in genius, but penury so held him under its sway, that one day, in a crisis of his invention, he said, that "if he could get £100 by cutting one of his legs, he would gladly give it to the knife." He was the man by whose discovery people now in a week's time can be transported over the briny deep, Artic explorers penetrate within a few miles of the North Pole; and yet he was made the recipient of jeers, and pitied as a bedlam. Cast down and broken hearted, the *finis* of this grand character, I am sorry to say, was suicide, by taking 12 opium pills. This is the way many benefactors of mankind are treated; and it is the same in apiculture as in other pursuits.

Herr Von Hruschka should have at least a line on the tablets of our memories indelibly stamped; but, lo! how few are they who ever knew the name of the inventor of the "Mel Extractor!" A man who made it possible to obtain honey in a liquid state, clear and pure, free from the juices obtained by squeezing the heterogeneous mass of comb, cocoons, larvæ, bee-bread and young bees, should not have his name left to oblivion.*

How our own inventors have laid awake at night, thinking over and picturing in their minds their inventions, even into "that hour, o' night's black arch the key-stone," I leave it to the bee-keeper's fraternization to judge by the above paragon. These men, above all other men, ought to be remembered; they are the time savers who have willingly used up their time so as to save time for others.

How to Dispose of Fogy Bee-Men.

Why then should we not, since we live in a country of which Joseph Hatton says: "Ten years in the history of America is half a century of European progress," wipe out fogyism and the fertile brains of reporters, which together make up the vile monster to our pursuit? A regular Polyphemus stalking through the land. *Monstrum horrendum informe ingens cui lumen ademptum*—"If its eye be not out, let us take it and end the agony."

Although his body is strong and corpulent, and in his hand an enormous bole he twirls, yet like the sparrow to the crow, in the long run we can exhaust him, and pry out that eye in the middle of his forehead, and thus render him *hors de combat*. But is it being pried out by publishing the "extemporaneous descantings and unpremeditated expatiations" of old fogies? No! and it never will be in that way.

Instead of talking so much about the ways of fogies, apiarists who have such men in their vicinage, should take them to their apiaries—for "a pound of fact is worth a ton of theory"—and show them with what alacrity they manipulate their hives, how to control swarms, how to obtain nice, white, comb honey, and eradicate that idea of theirs concerning the manufacturing of it by some New York firms.

It seems to me that those firms must be very occult, or else hidden away in

obulietts, and so magnificently pent up that a lynx-eyed detective is not able to find one iota of it, even with a $1,000 reward behind him. It is a shame for that "eye" to remain there while inventors are painting the cheeks of bee-keeping a rosy hue, and giving it a healthy appearance. Let every bee-keeper do as above, and it will have a great tendency toward stopping and checking the canards and malicious statements circulated about bees, grapes and honey.

"Ignorance is the mother of accidents," and as Garfield said, "Secession, the tocsin of eternal war;" therefore, while people remain in ignorance of (dablers especially—for "a little knowledge is a dangerous thing"), secession to modern apiculture lies will not cease; but since our strong arm is mailed with the thunderbolt of truth, we ought to cast all scoundrels down to the vile dust from which they sprung, or else set them on higher planes.

But as we look up the corridor of generations yet to come, yea of centuries, let us furtively hope that those inhabitants who patter upon the proscenium bee-life, and toss about the ball of bee-keeping, will render the saying, "How slow a judge is time," untrue in this particular occupation, by means of the great inventions produced by the leading geniuses of the day.

Pleasant Ridge, Ohio.

*[The invention of the honey-extractor by Maj. Von Hruschka, was detailed on page 89 of our book entitled, "Bees and Honey,"—the first edition of which was published ten years ago.—ED.]

HONEY-CRATES.

Convenient Crates for Comb Honey, etc.

Written for the American Bee Journal
BY LESLIE STEWART.

The weather is quite warm and rather dry, although it shows some signs of rain to-day. Basswood is just beginning to bloom, and it looks as though we would get some surplus honey from it. Although we will not have a very large amount of blossoms, it may be all that the bees can attend to.

White clover has not yielded much honey, and it is now failing fast. I obtained about 20 pounds per colony of extracted honey. There were but few sections of comb honey that were full enough to take off. I think that the bees have enough to winter on, which is pretty good for this season.

My extracted honey is nearly all sold at home, but the comb honey I prefer to ship to cities, as I do not like too much retailing.

Small Crates for Comb Honey.

The small crates are becoming very popular with me, as they answer for what the groceryman calls "family crates," meaning a crate that just suits a customer; and they sell a great many in this way, especially to the wealthy class, as the style and size just suit their fancy.

These crates are made to hold 12 one-pound sections, and as they are cheap, I would advise all bee-keepers to try a few of them, and see for themselves. They should be made of the finest quality of white basswood, and when filled with nice honey, they will attract the attention of every lover of that luxury.

The crates also are very handy for the city people who come out in the country to spend the summer months; they nearly always want some honey to take home with them, and are usually bothered to carry a large crate. Honey put up in these crates is less liable to get broken. I shall use them altogether this season.

Jefferson, N. Y., July 19, 1888.

HONESTY.

A Dishonest World Concludes that all Persons are Alike.

Written for the American Bee Journal
BY WILLIAM KLINTWORTH.

In almost every business, we find dishonest men. Men that are honest often have to bear, and are looked upon as dishonest by other men that are in the same business. Bee-men are accused of manufacturing artificial honey—yes, even comb honey.

I was passing a house last winter, and saw bee-hives and honey in great quantity. I went in to see the honey, and where it came from. I was informed that it came from New York State, and that he had bought some at 6 cents per pound. It was selling at 15 cents per pound. Some of it was the worst looking honey I ever saw. The proprietor said to me that they were making artificial honey now. I said that they could not make comb honey. He said they can adulterate almost anything. They can make chicken eggs that would hatch, but the chickens would not have any feathers.

Then you claim that they can make comb honey like you have there? "O, nicer looking than that. You are away behind the times."

I told him (for the crowd were taking sides with him) if he would furnish me with a pound of artificial comb honey, I would find a man that would pay him $1,000 for it.

Now, how do people get such impressions? I think that comb foundation is one cause. People in general know nothing about bees. They have heard something about comb foundation being made, and as they do not know anything about bees and their nature, they get the impression that comb honey is being made; and when they get some poor honey, they think that it is artificial.

A man said to me last summer, "I got some honey and we can't eat it." I asked him where he got it, and he said, "at the grocery." I went there and saw some honey that was brought by a farmer. The store-keeper saw me looking at his honey. He said, "That is nice." I told him that some one told me that he had honey that was not good. "O!" said he, "that was some that I bought from a drummer, and only paid 6 cents per pound for it." Honey at that time was selling at 25 cents, and the farmer that sold the honey there had to bear the blame of the poor honey that was mixed with his.

Another person told me that her daughter went to market and got some honey. She said, "I never saw such stuff. It looked like coal tar. It must have been artificial. We put it in the slop-bucket, as we could not eat it." Now, I wonder if the person that sold it in the first place thought that it was good, or even fit to eat. But we see and hear too often that people will sell such things as they will not eat themselves.

I often see where bee-keepers have explained how they work up a home trade, and can sell all their honey at home in their town. If we are honest, we will not have much trouble in selling. If I sold honey to a party—honey that is wormy, or is not as good as I represent it to be, could I sell them any again? I think not.

A woman lectured at the Farmers' Institute last spring, on this subject: "All men and women are liars." There is some truth in that. For instance, we have some honey to sell. It is not very good. We know that, but we want to sell it for a number one article—yes, for the best. The party that buys, gets a poor article. We have lost our reputation for being honest.

For the first colony of bees that I bought, I went to a bee-yard, and looked all around. I saw different kinds of hives. I saw a box that suited me. I said to the man, "What will you take for that hive?" He took his pencil and commenced figuring

thus: Box, so much; comb, so much; bees, so much; and queen, so much. The bees were black, but I wanted Italians. The man said he would put in an Italian queen. I said, "Suppose she does not mate right." He said he would put in another. I took the hive and bees at his price, thinking that I had pure Italian bees, but after a time I saw that I had yellow and black bees mixed.

I afterward said to the man from whom I had bought them, "The bees live longer than you said;" for I had black ones from last fall, that I got of him. So one day he came and looked at them. I pointed to some old ones. He would not acknowledge that they were old ones, but he did not explain how it came to be so. Now, why did he not tell me that the queen did not mate all right? I might have asked for another queen.

If we would do to others, as we wish others to do to us, we would have just as much money, and I know we would be happier, and would not complain about some things.

Marietta, Ohio.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Aug. 3.—Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.

Aug. 14.—Colorado State, at Denver, Colo.
J. M. Clark, Sec., Denver, Colo.

Aug. 21.—N. W. Ills. & S. W Wis., at Leaf River, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

Aug. 27.—Stark County, at Canton, O.
Mark Thomsun, Sec., Canton, O.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

——.—.—North American, at Columbus, O.
W. Z. Hutchinson, Sec., Flint, Mich.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Circassian Bees as Honey-Gatherers.—J. W. Tefft, of Collamer, N. Y., on July 18, 1888, wrote as follows:

Our bees are doing finely so far. The Circassian bees are gathering nearly double the amount of honey of any race or breed of bees that I have ever seen. They are truly wonderful, now that I have got the honey from them. I only wish that I had more of them. The Italians are nowhere compared with them for prolificness, hardiness, honey-gathering qualities, gentleness, and on all points they are a superior type of bees. I have taken, from one colony, 47 pounds of honey, and they yet have 72 one-pound sections two-thirds finished, and 12 solid frames of brood, 10 by 15 inches. I also have taken from the same colony 17 frames nearly full of brood, and given them to a queenless colony which I keep, in order to see how much one queen will do during the season. What in the world would Mr. Doolittle do with such queens in his nine 11 by 11 frame hives? He would condemn them as worthless as honey-gatherers, for they would swarm a dozen times during the season.

Should the honey-flow continue as it has been, I should have some great stories to tell the coming winter. I am not the owner of all the bees that I have the superintendency of, but I am for the Circassian bees. Every bee-keeper in this neighborhood is delighted with this strain of bees.

Bees are Doing Well.—Mr. T. C. Whiting, Athens, N. Y., on July 23, 1888, writes:

My bees are doing well. I had 2 colonies this spring, and I now have 7 very fair colonies. One I am afraid is worthless, but I will try to build it up. I shall experiment with it a little. This is my second year with bees, and I have all the bees I want. Next year I shall work more for honey. I expect to have 100 or more pounds of comb honey this year. I do not work for anything else.

Young White Clover, etc.—S. J. Church & Son, Cedar Rapids, Iowa, on July 23, 1888, writes:

The past winter and spring our loss was two-thirds of our bees. The middle of June we had 37 colonies left from 110 put into the cellar last December. Our first swarm issued on June 24. We are just through getting honey from basswood. There has been no honey in the white clover, but we hope there will be next month. The young clover looks nice and promising.

White Clover in August.—G. R. Fox, M. D., Sandyville, Ohio, on July 19, 1888, writes:

I have had 10 natural swarms from 6 colonies, but so far I have had very little surplus honey. There is a good prospect for white clover bloom in August, and we may have a fair yield of honey yet. For the last 10 days there has been plenty of rain, and all vegetation is growing rapidly. It was too wet during the linden bloom, and the bees could not work.

Good Prospects for a Fall Crop.—J. W. Bittenbender, Knoxville, Iowa, on July 18, 1888, says:

White clover and linden is over, and the surplus honey is not 5 per cent. of an average crop. Clover bloomed well, but it was mostly in June. It did not secrete any nectar. Linden bloom secreted nectar, but our heavy rains fell during its bloom. We had heavy rains every few days. The prospects for a fall crop are good.

Chapman Honey-Plant Worms.—Geo. Kirkpatrick, New Paris, Ohio, on July 20, 1888, writes:

I notice on page 468, Mr. L. Highbarger says that those who have the Chapman honey-plant should examine it closely, as there is a worm that is cutting the balls off. The same worm worked on my plants. I sprayed them with Paris-green, which destroyed them. My plants are from 3 to 5 feet high, and have from 30 to 60 balls each. They began to bloom on July 13. I am so well pleased with the plant that I shall save all the seed. I wish that I had 10 acres of it. I have seen as many as 27 bees on a single ball at one time, and I have seen as many as 17 bees visiting a single blossom in one minute. I am quite sure that the average number of visits made by the bees all day long is not less than 5 per minute; and as they work on it from daylight till dark. I know of nothing better. I have covered a few balls with paper, and in 24 hours I could see a large drop of nectar in each cup.

Death of E. W. Landon.—M. A. Williams, Berkshire, N. Y., on July 20, 1888, writes as follows:

It is with regret that we announce to the readers of the AMERICAN BEE JOURNAL the death of our brother bee-keeper, Elmer W. Landon, of Brookton, Tompkins county, N. Y. Mr. Landon was one of the most extensive bee-keepers in this part of the State, and will be greatly missed by his brother bee-keepers. Inclosed please find a notice taken from the *Ithaca Journal* of July 12:

OBITUARY.—In the sudden death of Elmer W. Landon, on Friday of last week, the society of Brookton and vicinity sustained a shock as severe as it was unexpected. He had been seriously ill for several days, but was supposed to be improving until within an hour of his death.

Mr. Landon was born in this community, and during the 29 years of his life, had, by his filial and fraternal affection as a child, his genial nature and conscientious deportment as a youth, together with his business enterprise and integrity as a man, endeared himself to all in the domestic, social and business circles of which he was a member. His anticipated marriage at an early date, fills to overflowing the measure of sadness connected with the event of his death.

His burial took place from the Congregational church on Sunday at 11 a.m. The choir, of which he had long been a member, could render no music on that occasion. The large concourse of people in attendance, and the universal expression of sorrow apparent, betokened the esteem in which he was held, and the profound sympathy felt for his family and friends by the community.

Metal Rabbet.—J. F. Latham, Cumberland, Maine, sent some metal rabbet, and wrote us as follows, on July 20, 1888:

I send by mail a piece of the metal rabbet which I use on my hives. It is different from any that I have ever seen, and I think better than the single strip.

[It is a **T** tin with one of the edges usually bent to the angle of a square, left straight with the double fold. The two single edges form one angle of a square, and fit over the inside edge of the hive where the frames rest, and can be nailed fast on the top and side. It is certainly quite an improvement, because the frames have a double thickness to rest on, and a smooth edge instead of a sharp, single surface to cut the fingers, when handling.—ED.]

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2 25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.
HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5¼@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.
June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-pound sections, 14c. No new in market, and old is not selling.
BEESWAX.—22@23c. Supply limited.
July 24. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—We get 15c. per lb. in a small way for best comb, and less for off grades. Extracted, best white, 7@8c. None of the new crop received yet, but there is more than sufficient of the old crop for the light demand.
BEESWAX.—22c. R. A. BURNETT,
Jun. 30. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@65c. per gallon.
BEESWAX—Dull at 23½@24c.
Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—No white clover left in this market. Dark slow sale at 8@10c. Extracted ready sale on arrival. New crop will meet with good demand.
BEESWAX.—23c.
July 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
July 11. C. F. MUTH & SON, Freeman & Central Av

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 14@16c.; 2-lbs., 13@14c.; 3-lbs., 12@13c. Extracted, white in kegs and ½-barrels, 8@8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 6@6½c. Demand good for extracted, but dull for comb.
BEESWAX.—22@25c.
July 2. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@23c.
Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: 1-lb. sections, not glassed, at 18c.; 2-lb. sections and dark ones, also extracted, is not in demand. New honey is arriving freely, with a fair demand. This part of the State is favored with half a crop.
BEESWAX.—None in market.
July 20. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 14@16c.; 2-lb. sections, 12@13c. New Florida extracted, 8@9c. Sales are very dull.
BEESWAX.—25 cts. per lb.
July 5. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Choice new extracted, 5 to 5½c.; amber to light amber, 4½@4¾c. Choice comb in 1-lb. sections, 13@14c.; 2-lbs., 12@13c. Arrivals are small, as apiarists are holding back. Prices are considered high.
BEESWAX.—18@22c.
Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.
June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, dark, 4@4¾c.; bright, 5@5½c.; in cans, 7@8c. Comb, white clover in prime condition, 13½@15c.; dark, 11½@12½ cts.—Market quiet and demand fair, owing to the warm weather.
BEESWAX.—22c. for prime.
July 26. D. G. TUTT & CO., Commercial t.

"The Battlefield of Gettysburg: Its Memories and Memorials," is most interestingly treated in *Frank Leslie's Popular Monthly* for August. The famous points of the great battle, the visits paid to it by the commanders and by officers and soldiers of both armies, the monuments that now mark the ground where regiments held their own under withering fire—all these come before the reader vividly. "Life in Pompeii" is depicted by pen and pencil. "Striking a Light," "Lightning Photographed," stories, adventures, and a continuation of Clarence M. Boutelle's absorbing novel, "The Grave Between Them," make up a most attractive and seasonable number to while away many a pleasant hour, and give topics of conversation.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

Advertisements.

ITALIAN QUEENS—Untested, 75c. each; 6 for $4.00; 12 for $7.50. Address,
26Atf John Nebel & Son, High Hill, Mo.

Carniolan Queens a Specialty.

ALL Queens bred from imported mothers. Gentlest Bees known. No smoke needed. They cannot be surpassed as honey-gatherers. Never saw foul brood. Prices:

One Untested Queen	.....	$1.00.
6 "	Queens.....	5.50.
12 "	"	10.00.
1 Tested Queen	.....	2.00.
1 Select and Tested Queen	.....	3.00.

Ninety per cent. will prove to be purely mated. Safe arrival guaranteed. All orders booked and filled in rotation. Address,

ANDREWS & LOCKHART,
31D3t PATTEN'S MILLS, Wash. Co., N. Y.
Mention the American Bee Journal.

A POSITIVE FACT:

QUEENS by return mail, from the old and reliable
KNICKERBOCKER BEE-FARM.
(Established 1880.)
—Warranted, $1.00; Tested, $2.00.—
Special rates on large orders. Circular free.
GEO. H. KNICKERBOCKER, (Box 41),
31D3t PINE PLAINS, Duchess Co., N. Y.
Mention the American Bee Journal.

PRICES REDUCED!

ITALIAN QUEENS, purely mated, 75 cts.; Six for $4.00. **Select Tested,** $1.50. By return mail. Address,
J. T. WILSON.
31A1t NICHOLASVILLE, Jess. Co., KY.
Mention the American Bee Journal.

FLORIDA Agricultural Weekly—20 pages. Established 1869. GARDENING, FARMING, **FRUIT-GROWING, Home-Making.** Full information about the State. $2 a year; 3 mo. 50 cts. *Specimens Free.* THE FLORIDA DISPATCH, Jacksonville, Fla.
20A13t

GLASS PAILS

FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.

Prices are as follows:

To hold 1 pound of honey, per dozen, ... **$1.60**
" 2 pounds " " **2.00**
" 3 " " " **2.50**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

BEE-KEEPERS' SUPPLIES.

HIVES, Sections, Foundation, Smokers, Frames, Crates, &c., furnished at greatly reduced rates. Also **ITALIAN BEES and QUEENS** at very low prices. Send for my Catalogue. Address,
A. F. STAUFFER,
29Ctf STERLING, ILLINOIS.
Mention the American Bee Journal.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to
A. I. ROOT, Medina, Ohio.
Mention the American Bee Journal.

Mention the American Bee Journal.

JUST PUBLISHED,
"PRACTICAL TURKEY RAISING"
By Fanny Field. This book tells all about turkey raising, from the setting of the eggs to the maturity of the young turks. If you follow the directions in this book you need not lose a bird. Fanny Field has had more experience and succeeds better in raising turkeys than any other person in America. She clears hundreds of dollars yearly on them, and will tell you how she does it. Price, 25 cents. Stamps taken. Address R. B. MITCHELL Publisher, 69 Dearborn St., Chicago, Ill.
31D2t

Barnes' Foot-Power Machinery.

Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free. Address, W. F. & JOHN BARNES,
45Ctf No. 484 Ruby St., Rockford, Ill.
Mention the American Bee Journal.

FEEDING-BACK.

THERE was probably never before gathered together so much reliable information upon the above subject as is to be found in

THE BEE-KEEPER'S REVIEW

for July. If you have, or expect to have, unfinished sections, read this Number. If you have failed to make a success of "feeding-back," its perusal may show you where you made your mistake. The August issue will be a "Fair Number."

Price of the REVIEW, 50 cents a year. Samples free. Back Numbers can be furnished.

The Production of Comb Honey,

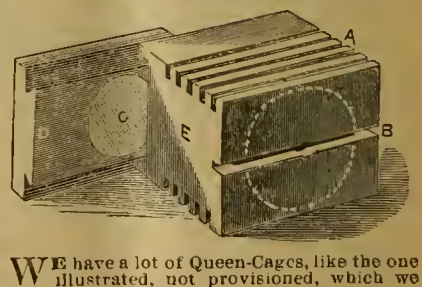
A neat little Book of 45 pages; price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, **W. Z. HUTCHINSON,**
29Dtf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

HEAD-QUARTERS IN THE SOUTH.

FACTORY OF
BEE HIVES, &C.
Early Nuclei & Italian Queens.
☞ Tenth annual Catalogue now ready.
5Ctf **PAUL L. VIALLON,** Bayou Goula, La.
Mention the American Bee Journal.

Queen Shipping-Cages.



WE have a lot of Queen-Cages, like the one illustrated, not provisioned, which we will sell **3 for a dime,** by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

HEDDON HIVES FOR SALE.

I HAVE a hundred, all complete—just finished. Purchaser given right to use them, by Mr. Heddon. Will sell at $3.00 each, in lots of 10 or more. Inquire of,
27Atf **E. D. KEENEY, Arcade, N. Y.**
Mention the American Bee Journal.

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.
Mention the American Bee Journal.

HANDSOME
ONE-PIECE SECTIONS.

WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Aug. 8, 1888. No. 32.

EDITORIAL BUZZINGS.

Father Langstroth, in acknowledging the receipt of our mite subscribed to the Annuity Fund, expresses himself thus to *all* who have helped to ameliorate his latter day infirmities :

I cannot well express how much the kindness of my bee-keeping friends has done to make me comfortable in my old age. Your kind wishes make what you sent me the more acceptable.

He concludes his letter thus : "May we all meet at last in that blessed fold from which no friend ever departeth." This sentence will strike a responsive chord in every true heart, for he is one of the best and most God-like men we ever met. To spend an eternity with such, is worth the "battle of life."

Prodigious Stories are being told every day by the sensational news-mongers, but the following sent to us by a correspendent, is "about as bad as they make them." It is from the Omaha *World :*

Honey made in California is shipped through Omaha to Philadelphia to be extracted from the comb and then shipped back to Omaha and sold to consumers with freights both ways added. This is what is called progress.

The exclamation of our correspondent was, "What a liar!" or something of that import, and we do not wonder at it. There is not the slightest foundation for such a statement. They have honey extractors in California, and know how to use them ! They ship extracted honey by the car-load and ship-cargo to all parts of the world, and in fact at least three-fourths of the honey crop of California is extracted. It is a "prodigious yarn"—nothing more !

The Union.—The election just held under the Constitution has resulted in the re-election of the former officers, as will be seen by the following, which gives the vote in detail : (There were 140 votes cast ; necessary to a choice, 71.)

For President—James Heddon, 105 ; G. M. Doolittle, 10 ; Prof. A. J. Cook, 8 ; Dr. C. C. Miller, 6 ; Dr. A. B. Mason, 3 ; W. Z. Hutchinson, 2 ; G. W. Demaree, 2 ; A. I. Root, 2 ; and Thomas G. Newman, 1.

For Vice-Presidents—A. I. Root, 133 ; Prof. A. J. Cook, 130 ; Dr. C. C. Miller, 127 ; G. M. Doolittle, 126 ; G. W. Demaree, 124 ; James Heddon, 17 ; Dr. A. B. Mason, 8 ; Charles Dadant, 5 ; Eugene Secor, 4 ; J. E. Pond, 4 ; W. Z. Hutchinson, 3 ; 2 each for R. L. Taylor, Dr. G. L. Tinker, Thomas G. Newman, Henry Alley and E. France ; and 1 each for Mrs. L. Harrison, L. C. Root, Geo. E. Hilton, Oliver Foster, Chas. F. Muth, John Aspinwall, A. E. Manum, P. H. Elwood, J. M. Shuck, C. H. Dibbern, Dr. J. P. H. Brown, T. F. Bingham, and John H. Martin.

For Secretary and General Manager—Thomas G. Newman, 135 ; Eugene Secor, 4; and Dr. C. C. Miller, 1.

While the General Manager would have been pleased to have seen a new set of officers elected—just to exhibit an interest in the organization—still he would also say that the President and Vice-Presidents have all worked so harmoniously for the general welfare, that it would be next to impossible to find those who would have done better, and we presume that the members of the Union have concluded that they could not better show their appreciation of what has been accomplished in the past, than by re-electing them for the ensuing year. Let us hope now that thousands of bee-keepers will join the Union, and thus make it more brilliant and successful than ever.

Approved.—Our old friend and former co-worker, Mr. A. J. King, of New York, for ten years or more editor of the *Bee-Keepers' Magazine*, writes very appreciatingly of the AMERICAN BEE JOURNAL and its management, as well as the Bee-Keepers' Union, in the following manner :

You have not only kept "abreast of the times" in this industry, but in your own, and the efforts of your widely extended staff of contributors have served to continually break up new ground. This, together with the increasing success of the National Bee-Keepers' Union, and the "soft words" but "hard arguments" used in its support, must command the respect, and should secure the support of all right-thinking bee-keepers. Wishing you the largest measure of success in all ways, I remain your old friend and former co-worker, A. J. KING.

Crop Reports generally are very flattering, and of the honey harvest, the interest is centered on the fall crop from the autumn bloom. Now that promises well where such flowers abound.

The North American Bee-Keepers' Society will meet at Columbus, O., on Wednesday, Oct. 3, 1888, and continue as usual in session for three days. Dr. Mason wrote to the Rev. L. L. Langstroth relative to his attending the meeting, and his reply was as follows, dated July 16, 1888 :

My health is not such as permits me to plan much for the future. If possible I will be present at your meeting, and will make some suggestions as to what can be done to revive an interest in bee-keeping among farmers. The excitement of the last convention I attended at Detroit, was too much for me, and I had a severe attack soon after my return home, which lasted nearly two years. I am always, when well, glad to be among bee-keepers, and I shall be specially glad to see again your genial face.

Your friend, L. L. LANGSTROTH.

Dr. Mason sends us the following concerning the exhibit of honey and apiarian supplies to be made there :

Preparations for the honey exhibit at the Ohio Centennial Exposition at Columbus, Sept. 4 to Oct. 19, are being made, and we hope to have the building, now being erected for us, and which is 36x80 feet in size, well filled with the products and appliances of the apiary. A. I. Root is to be there with his buzz-saws and section machinery, and will show just how they do things at the "Home of the Honey-Bees." He is also to make a fine showing of bees, and if it is *possible* we shall have a small apiary "in running order," on the grounds, and the way work is done in the apiary will be shown to "wondering thousands." The log "gum" box hive, and straw hive will stand by the side of the Langstroth and other modern hives.

Discouraging.—The following letter from J. C. Armstrong, Bromley, Iowa, written July 28, 1888, is a sample of many of such very discouraging reports of the present season. He says :

We can pay our money to the Union to fight bee-enemies in the shape of cranks, but we have a worse enemy that has been preying on us the last year and this so far, and that is the unfavorable weather. My bees have done less this year, so far, than last. They are lying around idly for the want of anything to gather. The white clover has furnished no honey to speak of. When it first began to bloom they went to work on it, but soon quit it in disgust. The basswood has come and gone. They worked on it pretty lively for a few days, and perhaps gathered enough to "keep the wolf from the door" for a little while. Our only hope is from the fall bloom ; if that fails us we will have to draw on the sugar barrel for winter stores. Last year I got a little surplus, but will be agreeably disappointed if I get any this year.

Linden Honey is still being gathered by the bees in some localities, especially is this so in Canada and the States in the same latitude as Ontario.

Mr. J. M. Hooker, one of the most progressive and popular apiarists of Great Britain, is about to publish a new book on Bee-Keeping. Mr. Hooker is one of the oldest subscribers to the AMERICAN BEE JOURNAL, and is well posted in American inventions and management, as well as British implements and methods.

GLEANS OF NEWS.

Driven Him to Explain.—Prof. Wiley has at last been driven to explain his "scientific pleasantry" in several of the agricultural papers. We have tried to get him to do this for years, but he studiously maintained strict silence.

We well remember some of the stories in the school books of half-a-century ago, and among them of a boy who was up in an apple-tree knocking down the apples. The owner found him at it, and at first tried persuasion; that not availing anything, he pelted him with wads of grass. Upon finding the boy apparently enjoying the *fun* and laughing in his sleeve, he concluded to try some more effectual method. He went to a stone-pile and began to pelt the boy with rocks. This soon brought the young thief down, and saved the apples from being destroyed or stolen.

Just so have we acted with Prof. Wiley. We *politely* pointed out the blunder he had made in his "scientific pleasantry," and advised him to publish a correction. Finding this unavailing, we pointed out the *great damage* that its circulation throughout the world had done, and was still doing—that while no word from him had been published which in the slightest degree had modified the story, or cast any doubt upon its reliability, it was traveling "at lightning speed," and creating a sentiment against the purity of comb honey everywhere in its course, and demanded a public retraction from him.

This receiving no attention, we used the hardest arguments we could find, couched in the *strongest* language that the Dictionary afforded, to show up the *infamy* of such a course of procedure on his part!

Then came his friend, W. M. Evans, to the rescue, and with two to one to fight, we "rolled up our sleeves" and "gave it to them right and left," with all the vigor and enthusiasm at our command, until the Professor was induced to explain some, and try to dodge the responsibility of the damage done, by saying that he "was sincere" in repeating what Dr. Hallock had told him about the "full outfit of machinery for the manufacture of artificial comb" in Boston.

His Virginian friend re-asserted that such comb was being made, filled with glucose, and sealed by machinery—and blurted out this self-contradiction: "The Wiley **lie** is **true!**"

Then we demanded the production of at least a single pound of the *vile trash*, or the confession from Mr. Wiley that the story was only fictitious! Driven into a corner he finally makes this astonishing confession:

At the time, I repeated this statement more in the light of a pleasantry than as a commercial reality, for I did not believe that it was POSSIBLE commercially to imitate the comb!

This infamous and bare-faced "confession" of Prof. Wiley came, not because he wanted to make it, but because we had goaded him until he could stand it no longer! It had the same effect as the throwing of the rocks and pelting the boy in the apple-tree, in the old-fashioned, school-day story.

Then the ice being broken, the Professor rushes to the principal agricultural papers with an explanation about that wonderful "scientific pleasantry," but complains most bitterly of the manner in which we followed him up, and of the strong language we used to bring him to terms.

As that was the only thing which aroused him to a sense of the position in which he had placed himself, we think he should feel thankful to us for it. He may now clear up the matter, and do some small part in counteracting the evil which was done to an honest pursuit by his former ill-timed "joke!"

This is how the matter is viewed by Bro. Root, in the last number of *Gleanings:*

While our good friend Newnan, of the AMERICAN BEE JOURNAL, may not have used just the language that some of us would have used in obliging Prof. Wiley to take some notice of the consequences of his foolish statement, we of the bee-keeping fraternity certainly owe him a vote of thanks for having at length driven the Professor into a corner, as it were, and for having literally *made him* recall his foolish statement.

With all the explanations that can possibly be made, I think the world at large are pretty well satisfied that no professor or scientist has any right to make such statements, jokingly or otherwise; and I believe that the consequences of this piece of folly will damage Prof. Wiley's reputation in spite of all the explanations and apologies he can possibly make.

Yes; Brother Root, the vigorous "rock-pelting" did it. As nothing else would answer the purpose, we had to use the "rocks," even though we disliked to do so—much preferring the pleasant words of life!

Seasonable Gossip.—The following written by Mrs. L. Harrison on July 28, 1888, for the *Prairie Farmer*, is very interesting and seasonable talk:

This showery weather makes fox-tail and other grasses grow like Jonah's gourd, and the lawn-mower has to be run in the apiary every few days, or it would be difficult carrying around hives, etc. The leaves of fox-tail serve as receptacles for holding water a long time, and large, sparkling drops may sometimes be seen a day after a rain. No grass that I am acquainted with grows in summer like it. It is a continual pest to me, by growing up in front of hives, and obstructing the flight of bees. This morning I noticed a row of hives, where it had grown up in front, and as it rained last night, was sparkling with water. The bees were darting in and through it very fast, heavily laden with pollen, and many pellets were brushed off. The squash family is blooming, and abounds in pollen. It saves labor to sow salt in front of hives, to keep down vegetation, and it is cheap.

Bees swarm very irregularly this season, and I have no doubt many will be lost, for their owners will tire of watching. A little flow of honey, and they rush out in search of a new hive; and many swarms come out quite early in the morning—a little past seven. The first after-swarm of the season came off to-day; it was unnoticed until clustering; had I known where it came from, I should have returned it to its former home; the hive from which it issued is now no doubt almost without a tenant. When I discover it, I will extract the honey and exchange the combs with some populous one, for those containing brood. If that hive full of combs and honey were let alone, it would take it all summer to get bees enough to winter, and where would be the profit? Every hive must pay its rent, or the more the owner has, the poorer he will be.

No bee-master allows his bees to cluster on the outside of the hive for want of storage room. Better have too much storage-room than not enough, for bees love to work, and should not be enforced into idleness.

Statistics obtained for *Gleanings* on July 4, are thus summarized by its editor:

The average price of comb honey throughout the rural districts of the United States is very nearly 16 cents; the average price of extracted, 11 cents. In looking over these reports we find that comb honey is selling in a good many places for 20, 30, and 35 cents. We observe, also, that in other districts it is selling as low as 5 cents; that extracted bears very nearly the same proportionate variations. Both comb and extracted sell for a great deal less in the South than in the North. It is also interesting to note that, in the rural districts, honey brings a much higher price than in the cities. Producers should not fail to take this into consideration when about to dispose of their crop.

The average number of pounds per colony secured by those who report anywhere from 0 to over 100 pounds, is only 16. The large number of those reporting no honey (53) reduce the average very materially. Counting out this number, the average would be 36 instead of 16. In looking over the statistics we find there are only two who have reported as high as 100 pounds per colony. There are very few who obtained over 50 pounds. Quite a number secured only 8 or 10 pounds per colony. Twenty report the season good; 17, average; 12, fair; 21, poor; 20, bad.

Putting the sum of the numbers corresponding to good, average and fair, over against the numbers corresponding to poor and bad, the ratio stands 49 to 41. In a word, not only has a very small crop of honey been secured, but the season with nearly half of those who reported has been poor. Taking it all in all, it is discouraging; but *we* must not be discouraged.

The average date at which the reports were given, is July 4. Please bear this in mind, then, that the foregoing summary applies to and up to about July 4. Since that time the outlook for the bee-keepers may have been changed quite materially.

Postage on Seeds, etc.—A new law has just passed reducing the postage on seeds, cions, etc. It is not yet operative, but soon will be. This is how it reads:

Hereafter the postage on seeds, cuttings, roots, cions and bulbs shall be charged at the rate of one cent for each two ounces or fraction thereof, subject in all other respects to the existing laws.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

BIOGRAPHICAL.

MR. F. Y. TYRREL.

After a short illness, Mr. F. Y. Tyrrel died of diabetes, on Friday, July 13, 1888, at Madison, Neb. The funeral services were held in the grove adjoining the house, on Saturday. A few remarks were made by Rev. Mr. Kimball, and the remains were laid at rest in the Madison cemetery. Mr. Tyrrel was in the sixty-eighth year of his age. He was born at Lanesborough, Mass., but he lived in Madison for the past thirteen years, and was honored and respected by all who knew him. He leaves a wife and five children and a large circle of friends to mourn his death. His son, Mr. A.C. Tyrrel, one of the correspondents of the BEE JOURNAL, has sent us the following tribute to the memory of his father, who was an ardent lover of bees and the pursuit of apiculture :

"Life evermore is fed by death,
In earth, and sea, and sky;
And that a rose may breathe its breath,
Something must die."

If it is true, as the poet has written, that "Nature is indifferent to the fact of human pain," it is also equally true that nature is kinder to us than we are to ourselves; it prepares us for the transition we call death, by a process we cannot describe, much less comprehend. It prepares the emaciated form for the separation of the spirit from the body. It comforts us during the saddest moments of our lives; it assuages our grief when our loved ones lay down the burden of life—give up the life long struggle for existence; and in the performance of the last tender acts for the departed, and ever after.

To those capable of having their sensibilities moved by human sorrow and pain—whose memory retains and loves to dwell upon and recall all that was ennobling in the lives of those of our number who have passed from earthly vision to brighter and higher spheres, the grand and perfect adjustment of nature's laws, lesseu in time the poignancy of grief and fit the sorrowing for the duties they owe the living. If the reverse were true, life would be unendurable—a living tomb, without a cheering ray of sunshine. "All would be dark and dreary, for into each life some rain must fall."

Our father's every act of kindness, every loving word, every deed of charity, every sacrifice he made for those he loved—all his labors of love, his self abnegation, are living monuments, the grandest testimonials to his worth, that can be erected—a sacred tribute to his memory, more eloquent, expressive and enduring than cold, gleaming, marble slabs, storied with his praise. All that was beautiful and in harmony with his surroundings, he loved. The birds that carroled their sweet songs in the trees which he thoughtfully planted in the once wild prairie soil, and tended so carefully—the flowers of exquisite hue and fragrance—the *bees* flitting from flower to flower in quest of golden nectar—all these were objects of interest to him. Nothing of beauty in earth, sky or air escaped his notice.

His home was his palace—his family his loving subjects, and objects of solicitude to the very last, although everyone is traveling the decline of life. His associations with his companion were hallowed. She was in every sense of the word a helpmeet, to whom he was indebted for whatever of success he achieved—his steps guided by and his character moulded by her. The world will be wiser, yes, better, when it can truly say—

"O, woman—mother! Woman—wife!
The sweetest name that language knows;
Thy breast, with holy motives rife,
With holiest affection glows;"

when it will concede that she moulds the character of individuals and the destiny of the nations of the earth; that we are indebted to her for the breath of life, for our intellect, good impulses and influence. To her the statesman owes his eloquence and power; the laborer in the vineyard of life his influence for good—all must acknowledge her supremacy.

The cycle of years will still roll round, bringing to all his little family joys and sorrows, incident to life. The burdens must be borne, the struggles and vicissitudes of life must be met. All that tend to fill up and complete the full measure of our days, is before us, yet the tender recollection of his manly life can never be effaced—will ever be a green oasis in the desert of our hearts. The mad, head-long rush for position, fame, power,—perchance for the very necessaries of life, may sear our hearts, render them more barren and desolate than the desert of Sahara; let us hope not. Such has been the lot of those ere now, with such blessed and hallowed associations as now cluster around our pathway. Our destiny is shrouded in impenetrable mystery, and beyond our control, but let us hope that the pain and sorrow father bore so meekly and without a murmur, and withal his example be a beacon light to steer our barks from the treacherous shoals, the maelstrom and breakers of life. Let us exercise the same kindly feeling of charity he ever manifested toward his fellow men.

Father was one of those peculiarly constituted men in whose composition there lurked no discordant, strife-producing elements. We can truly say that within our knowledge he had not one enemy. It is said that a man amounts to but little in this busy world unless he can number his enemies by the score—a mark of greatness. In the estimation of his family he was a nobler and a grander man than he who dips his sword in the blood of his fellow man, no matter how just the cause. We are content with those traits of character that were our admiration when a child, and which abided with him to the last hour of his life, having only kindly thoughts and words for all mankind.

It seems fit and proper that one who has know him so long and well should pay this last tribute to his memory—the last sad office we can perform for him. The little acts of kindness and the little deeds of love which the world takes no cognizance of, yet they are as a little spark kindled in obscure places that has revolutionized the world. Good deeds in a community may be of some benefit, and extend beyond our ken; and what is the world but an aggregation of communities?

INTERROGATORIES.

Uncapped Sections of Honey.—Rodman Lovett, Rome City, Ind., on July 30, 1888, says:

Bees are not doing very much at present, as it is too dry. I will give a report at the close of the season. Would you remove sections of honey before they are capped?

All comb honey should be well-filled and seated over before being removed from the hive, in order to be attractive and salable.—

Bees Don't go Home till Morning, says a correspondent from northwestern Ohio, in a postscript to a letter on Aug. 1, 1888:

The Chapman honey-plant is in "all its glory," and some of the bees have such an affection for it that they stay on it all night, and "don't go home till morning." A few days since I did not know what to do with my bees. I never had such strong colonies before, and but few were getting any surplus, and many of them were "just living from hand to mouth;" but now the sweet clover, of which there are acres and acres in the waste places and vacant lots, and along the streets of the city of Toledo, has blossomed finely, and the bees are having a jubilee on it.

Yes; sweet clover is the main source of supply for bees, in many localities this fall; and the honey is of a superb quality.

Freaks of Bees.—H. Earl Wilson, Arcade, N. Y., on July 24, 1888, writes:

The bees do not seem to be doing very well in this vicinity at this time. The basswood is in blossom, yet the bees are not as lively as they ought to be. 1. I wish to ask a question—the case occurring a few days since. I do not understand it. About two weeks ago a swarm came out four times, and every time I searched, but could not find a queen-cell in the hive. On the fourth time a miller in a worm-state was found in one of the combs in the hive, boldly crawting and devouring the wax and uncapping the worker-cells. A few days ago another swarmed the fourth time, and I found the same thing in it as in the former one. Is it possible that a miller can scare a virgin queen to go out of the hive? 2. As I was in school last year, not reading all the queries in this paper, what hives do Prof. Cook and Mr. G. M. Doolittle use? 3. What hive is the most used?

1. No. The miller was not an uncommon occurrence, and did not in either case cause the swarm to issue. Swarms sometimes issue when no human eye could discover queen-cells started. However, they soon after appeared. Bees do all sorts of things, occasionally, especially in poor seasons like this. 2. They both use the Gallup frame, 11¼x11¼ inches. 3. The Langstroth hive.

The Honey-Bee and the Grapes.

Paraphrased from the Youth's Companion

BY GEO. W. YORK.

"You are a little thief," I said,
To honey-bee so blithe and gay,
"You stole my grapes so ripe and red—
To that, now what have you to say?"

In buzzing speech she sweetly said—
Her golden bands glowed in the morn—
"I take my pay in grape-juice 'red,'
For working in your vines and corn.

"But grapes I touch not till the same
By bird or insect have been broke;
Then I the oozing juice reclaim—
Which should not anger any folk.

"My sweetest song I hum for you,"
She said in music soft and slow,
And then her wings shook "pollen-dew"
In showers on the blooms below.

Like tears the "dew" fell, and I said—
When came the pauses of her strain—
"Sweet bee, just eat my grapes so red,
I will not call you thief again."

Now every year, when summer's come,
Bees visit all the flowers gay,
And decked in golden bands they hum,
With cheering songs at dawn of day.

The honey-bees—my choicest pet,
I wish them joy and length of days;
They pay me well for all they get,
In skillful toil and songs of praise.

Chicago, Ills., July 30, 1888.

QUERIES & REPLIES.

Cementing a Bee-Cellar Floor to Lower the Temperature.

Written for the American Bee Journal

Query 566.—My bee-cellar is all under ground except the front end which is walled with sand-stone. A honey-house is overhead. I want to cement the bottom; by so doing will it prevent the warmth of the earth reaching the cellar, and make the temperature lower in the winter?—K., Indiana.

No.—R. L. TAYLOR.

No.—MRS. L. HARRISON.

No.—M. MAHIN.

No.—EUGENE SECOR.

No.—C. H DIBBERN.

No, sir.—JAMES HEDDON.

I think not.—H. D. CUTTING.

No, we think not.—DADANT & SON.

I have no experience with bee-cellars.—P. L. VIALLON.

I should think not.—A. B. MASON.

I think not.—J. M. HAMBAUGH.

I think not, but I should rather have the earth floor.—C. C. MILLER.

Not at all. What is cement but earth?—A. J. COOK.

There is not a particle of difference. Cement it, by all means, if you are able to do so.—J. M. SHUCK.

The difference in reduction of temperature would hardly be perceptible.—J. P. H. BROWN.

I think the cementing would make no difference as to the warmth.—G. M. DOOLITTLE.

I do not think it will affect the temperature to any appreciable extent.—J. E. POND.

Perhaps it would have some effect in that direction, but I would cement the floors of all cellars, notwithstanding. The temperature can be regulated by artificial means.—G. W. DEMAREE.

There would probably be no perceptible difference in the temperature—but it would be advisable to cement it nevertheless.—THE EDITOR.

Proper Management when Hiving Swarms.

Written for the American Bee Journal

Query 567.—1. When hiving swarms in a 10-frame Langstroth hive, is it advisable to contract the brood-chamber? 2. If so, to how many frames? 3. Had I better use starters, or full sheets of foundation in the brood-frames?—Northern Iowa.

1. No. 3. We use full sheets.—DADANT & SON.

1. Yes. 2. I should use only five. 3. Starters.—G. M. DOOLITTLE.

1. No, not unless the swarm is very small. 3. Use full sheets alternated with frames of comb, if you have them.—J. P. H. BROWN.

1. Yes, sir, contract to five frames, which are enough to hive any swarm on in this latitude. 3. I am still using full sheets.—JAMES HEDDON.

1. No; a good sized swarm will need all the room, especially in warm weather. 3. Use full sheets, every time.—C. H. DIBBERN.

1. I think that 10 frames are too much. 2. I do not know; somewhere from 5 to 8. 3. Full sheets.—C. C. MILLER.

1. Contract according to the size of the swarm. 2. I put in just enough frames which will be well covered by the bees. 3. Full sheets, using wired frames.—P. L. VIALLON.

1. If you wish to get all the comb honey possible, contract. 2. Four to six, according to the size of the swarm. 3. Full sheets, except experimentally.—R. L. TAYLOR.

1. It will depend upon the size of the swarm. Give as many frames as the bees will cover. 3. I think it better to use full sheets of foundation.—J. E. POND.

1. Yes, unless the swarm is very large. 2. Eight. 3. That will depend upon the season, and the condition of the honey-flow.—MRS. L. HARRISON.

1. If the swarm be large, I would give them the whole ten frames. 2. That will depend upon the size of the swarm. 3. I would use full sheets.—M. MAHIN.

1. "That depends." If working for extracted honey, no. 3. That depends also. If working for extracted honey, use full sheets of foundation in wired frames.—A. B. MASON.

1. You do not say whether you want comb honey or extracted; if the former, I would contract to 6 or 7 frames. 3. I am not sure on this point. I am using starters, myself.—EUGENE SECOR.

1. If working for comb honey, yes. 2. Five to seven, with surplus receptacles from the parent colony above. 3. Should you wish to propagate bees for a fall crop, use full sheets of foundation.—J. M. HAMBAUGH.

1. It depends upon what plan you are working your bees. If for comb honey, contract to 6 or 8 frames. 3. If you work for extracted honey, use full frames of foundation; if for comb honey, use ¼ foundation, with sections well under way on top.—H. D. CUTTING.

1. I think that 8 Langstroth frames are sufficient when hiving swarms. I would transfer the supers from the hive of the colony that cast a swarm, to the hive holding the new swarm, and then use full sheets of foundation in the brood-chamber. If I had to put new supers on the swarm, I would use only "starts" of foundation in the brood-frames.—J. M. SHUCK.

It all depends. If you are desirous of obtaining comb honey, I should say contract to 5 frames, and use only the starters. If extracted honey is your aim, then I should advise full brood-chambers and full sheets of foundation. Read Mr. Hutchinson's excellent book.—A. J. COOK.

1. There are differing opinions on this subject. Many ideas and things have had a great *run* for a period of time, and then "steal silently away." Such, I think, will be the case with the "contraction system." The contraction system is very much like a man trying to make money by trading with himself, all the time driving a sharp bargain with *no one*. It is a case of one trying to lift his corporal system by the straps of the boots. 3. If you are making bee-culture a permanent business, it will pay you best to use full sheets of foundation in a full-sized brood-chamber.—G. W. DEMAREE.

Much depends upon the size of the swarm. If you are working for comb honey, it would be better to contract to from 5 to 7 frames. If extracted honey is your object, the full brood-chamber may not be too much. Full sheets of comb foundation in the brood-frames will give you more satisfaction than starters.—THE EDITOR.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

CORRESPONDENCE.

FOREIGN BEES.

Temper and Characteristics of the Eastern Races.

Letter written to S. W. Morrison, M. D.,

BY FRANK BENTON.

As to your questions: 1. "Do you not have in Carniola, and in your apiary, queens which produce some workers with yellow bands?" Yes, yes; and I have yet to see an apiary in Carniola where such do not exist, although I have visited all the most important apiaries existing here, and have seen hundreds of colonies. There is in the race a tinge of yellow blood that crops out every now and then, do the best one may. I breed only from such queens as produce *gray workers*—such as show no yellow or orange bands—not even a *tinge* of orange, and I permit no drones to be reared in my apiary except those from Carniolan queens whose workers and drones are quite gray; but there are several native apiaries (box hives) near me, over which I have no control, and whose owners care nothing for yellow bands if they exist.

There were at my residence to-day, two intelligent bee-keepers from the northern part of Carniola, and I questioned them on this point, and they re-replied that an occasional tendency toward orange or rusty-red bands was always the case with all Carniolans, but that it was no mark of impurity in the race, since it exists so all over Carniola. This agrees with my own observations made here in 1880, 1883, 1886, 1887 and 1888. Please refer to the article on Carniolans which I published in the leaflet "*Bees*," for Jan. 20th, 1886, and you will see that I mentioned this in the second paragraph.

2. "Are all Carniolans the gentlest bees known"? Like all races, individual colonies differ in temper. The crossest Carniolans are likely crosser—less gentle, than the gentlest Italians. But for all this, it is none the less true that the race—Carniolans—are far gentler than Italians, and the crossest Carniolans by no means equal, in crossness, the crossest Italians. And, though I kept Italians in Michigan for many years, and also several years in Tennessee, and have handled them in many different apiaries in the North and South, it has never been my lot to meet with any, (in America nor in any part of Italy, which I have visited some six or eight times, and the length and breadth of which I have travelled several times), that were as gentle as the gentler Carniolans. When now we take into account the fact that Carniolans are much hardier and more prolific than Italians, we have abundant reason to place them as superior to Italians. Yellow bands or no yellow bands, they are better, and the best we can do is to try to avoid the bands in breeding. Hybrid bees are common in Italy except in a few districts. Moreover, several prominent Italian breeders have imported Cyprian and Syrian bees from which to breed in order to have *yellower* stock! Perhaps also to give *energy* to their lazy, sluggish, drone-like workers!

I suppose when you advertise Carniolans as just "as *prolific as the wicked races*," you mean by this last, Egyptians, Palestines and Syrians. Surely, you would not commit the blunder of including under this expression also the *Cyprians*! Well, at any rate, you have made a decided mistake in saying that Carniolans are as prolific as any other race, except other European races, which they excel in prolificness. But Syrians exceed all other races. Cyprians are little behind them, and, indeed, individual Cyprians nearly or quite equal the best Syrians, Palestines, Egyptians, and Tunisians are close on the tails of all these others; and then come Hymettus (Greek) and Dalmatian bees standing about the same as Carniolans.

Strange to say, if I were to send you a Hymettus queen, you would not know her, nor her bees, from Carniolans—except in their *temper*. The Hymettus bees, or bees of Attica, will fly at one when he approaches their hives, with much more vigor than even blacks, and also in greater numbers. Disturb them without smoke, and you will want a brook near at hand to jump into. The same rusty-red bands, only occasionally slightly lighter—almost a dirty white, appear with them as with Carniolans.

Dalmatians are curious, shining blue-black bees that play and chase each other like flies at the hive-entrances. They are not difficult to manage, and are splendid comb-honey bees.

Carniola, Austria, July 4, 1888.

BEE-WORK.

Methods and Implements Used in the Apiary.

Written for the American Bee Journal

BY G. P. HACHENBERG, M. D.

The maximum standard of my apiary is about 100 colonies, but like the tide, it swells and recedes in number, not as the moon would have it, but the contingency of a Texas climate—its temperature, aridity, the yield of honey pasture, etc. Bees multiply here rapidly, but they are often destroyed in the same ratio. The past spring I found my apiary cut down to about 60 colonies, many were destroyed by starvation and moth, some by the cold, and a few by solar heat, drowning the bees in their own honey; and in time of swarming many took flight to the woods. Many of these disastrous results might have been avoided by attention and labor; but an old army officer like myself, made stiff and clumsy by age, and in Uncle Sam's service, necessarily has to conduct an apiary on principles and a method of his own. When I made my *debut* here as a bee-man, I went it strong. I put up a work-shop, honey-house and store-house, and spent a little fortune to get together the whole stock and paraphernalia of a first-class bee-establishment. If my income was not always in keeping with my expenditures, nevertheless many of my bee-friends thought I had extraordinary success. And so I had, when we take into consideration that I commenced about seven years ago with only three colonies, and bought none since.

How I began Bee-Keeping.

About ten years ago I bought 10 colonies with no knowledge whatever of the bee-business. I had an idea that bees would shift for themselves, and all that I had to do was to take honey from them *ad libitum*. Under this system, they all died but two colonies, and these had a remarkable history. I kept them in a dark chamber in my house (to keep them from being stolen) with a large auger-hole through the wall for their exit. Each colony was in two hive-stories, and as their location made it impossible to take honey from the hives, they become very strong, and finally made large clusters of comb with honey outside of the hive, inside of the house. For some time I cut from this comb all the honey we needed for table use. This was in the mountains of Texas, about 50 miles from here, where I had tarried for a few years to heal up my lungs by the mountain ozone.

How I moved my Bees.

On my return to the vicinity of Austin, I brought these two colonies with me, which had their habitation in rough boxes of my own make, admitting free ventilation from all corners. I don't believe that there is any thing in the annals of history that equals the rough usage that these bees got in their transportation to this place. I nailed up the bottom of the hives with boards, and secured the stories with side-strips. The question of favoring them with much breathing space was barely taken into consideration, perhaps for a lack of interest in a business I felt I did not understand. I moved them in a common farm-wagon ten miles, over the roughest road in Texas, running over rocks of a prodigious size; and what was worse. I then left them in their confinement, stored in a house on my ranch on the Perdanalis, for over two weeks. Then for 40 miles they were taken through the mountains to Austin, with such rough usage, even to break away some of the strips of the hives, liberating some of the bees. Of course they promptly notified me of the break, with the song into my ears, "Stop that team." To save horses, bees, and myself. I at once repaired damages.

When I got here, their music and activity was very much subdued, and my prognosis of them was anything but favorable. I put them on stands and liberated them. Poor things! it was a painful interest to see them come out one by one, looking like crippled invalids of a hospital. Soon some took wing and appeared to locate their mysterious drop-down. I watched them with interest and sympathy, and I noticed in particular that for a time they had lost all their combativeness. As I found that they survived the most cruel treatment (no doubt owing to the cool weather at the time, and the mixed arrangement of the comb), I concluded that I would try my luck again, but not as an ignoramus, but with the necessary intelligence for

the business I at once secured the AMERICAN BEE JOURNAL, and some of the most reliable literature on the bee, and carefully read them. At the same time I added an Italian colony, making the three in number. After I had a few swarms of this stock, I employed a bee-expert to transfer all my bees into the "Simplicity hive," and to watch him to do other wonderful manipulation of the art. In another year I had Italian queens introduced in the most of hives.

Caring for the Bees.

I soon found out that knowledge with attention worked well in this enterprise and in a few years I had more bees, and at times more honey, than I knew what to do with. Every year I bought comb foundation without stint. In 1885 I had incurred extra heavy expenses in laying in supplies, and in return realized little or nothing. This rather took the fun out of the business. I then resolved that my three millions of subjects must work and board themselves. I stopped feeding them, but consolidated the weak, and gave them comb from the strong. I ceased supplying them with foundation, but had them to make their comb without foundation. All the assistance I gave them in this was to pencil with nice, hot wax, the inside upper piece of each frame as starters. Much time and labor I saved by discarding the use of the wire in frames. In short, I promised my bees to give them a favorable and comfortable habitation—guard them from harm individually, as much as possible, *keep them strong and powerful to protect themselves*, but otherwise the apiary must be self sustaining. Not only have I curtailed my expenses to the lowest notch; but what was of greater importance in my case, was to bring the force of my labor to the same mark. Such a thing as hired bee-help is, perhaps, not known in this country. To carry out my plans, I enforced a rigid system.

Keeping a Record of each Colony.

In the first place I discarded all slates, and have each hive (painted white) numbered in bold, neat black figures. In a large blank book, the number of pages, corresponded with those of the hives giving the age, condition and running history of each colony. Any time a hive was examined, or any thing done to it, an entry of the transaction was made. The numbers on the hives were so arranged that they could nearly all be easily read from the honey-house. As this record was kept from the beginning, it is already a work of interest.

A Bee-Veil for Perfect Protection.

Of implements, I made a veil that would not impair vision by any network. I constructed one with a piece of mosquito-netting with a small, clear glass window 3x6 inches in front, to look through. The glass was set in a tin frame, with holes around the outer margin, to which the netting is sewed. The veil is placed over a straw hat with a narrow brim, and fastened to it to keep it in place. In stooping, to keep the glass from dropping forward, it is secured to the neck by two pieces of strings. The netting is long enough to tuck the lower end under the vest. It is a perfect protection, and one can work with it with the facility that he could with the naked eye. I will venture to say, if any bee-man will try the "window" he will long for nothing else in way of a bee-veil.

A Handy Frame-Hook.

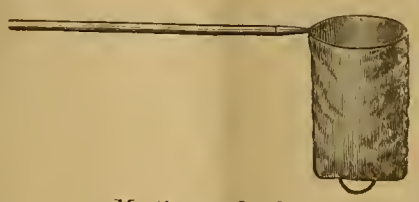
Another good thing I got up is a hook to lift loaded combs out of a hive. Take a firm, thick, galvanized wire about 8 inches long, and bend one end into a large round hook for the handle; flatten the end, for lifting wire nails out of the fames presently to be described; then bend the other end into a short angle of a square. With the short hook the

My Frame-Hook.

frames are taken out, the purchase being made inside of the frame. This small hook serves another very convenient thing, viz: I have the slats of my mats made by the thousand, and put them together myself with copper wire. At the two ends of one side I leave a twisted loop of the wire, to receive this small hook in removing it. This is done without delay, and without breaking the slats. Mats put together with twine are a nuisance, and those of gum-cloth are not much better, as the bees make havoc with both of them.

Swarm Catchers.

To secure swarms I use two ordinary coffee bags, the opening of each being fastened to a firm wire ring. One is at-



My Swarm Catcher.

tached to a long pole, and the other to a short one. I have likewise two hooks inserted in the end of long poles to correspond with each.

Where the bees cluster high up, very often even without the aid of a step-ladder, they can be readily secured with the long poles. As soon as the bees are in the bag, a twist of it will close it up, and without any loss of bees, it can be carried to any desired place, where an empty hive is ready to receive them. If I do not get the entire swarm at the first trial, I repeat the operation, until I have entirely secured them.

If the queen is secured in the first operation, the remaining bees will migrate on their own accord to their new home without any help, and even if they should return to their former hive, nothing would be lost.

Keeping the Frames a certain distance Apart.

There is a desideratum to have all the frames permanently fixed at equal distances apart. For a few years I used the frames with metal-corners. I likewise discarded them on account of their ready displacement before fastened by the bees, and the extra labor they demand in putting them together, and afterwards to make good the results of their displacement. There is one trifling merit in them, and that is, they do not adhere much about the tin—but the troublesome wax adhesion is not so much on the top as at the bottom and sides. I now use only the wooden frames, and even with them I made a special provision to secure their fixed locality, for several reasons. Instead of adjusting the frames at the stand, I do that preparatory at the honey-house. In moving the hive to the stand, no handling, or subsequent jarring, will displace the frames. All the combs are very likely to be built in proper regularity, thus saving frequent examination of the hive. The regular open space between the comb will give the bees an advantage in their warfare with the moth, and will prevent the bees themselves from crowding the frames out of line! etc.

I have a measure made out of tin about one by fourteen inches long, with ten holes, to correspond with the ten frames of the hive. This measure is laid inside of the hive where the frames are to rest upon. Then with a punch, corresponding holes are made through the tin into the hive. Each of the ends of the upper pieces of the frames are perforated with the same punch, in a true line with the holes in the hive. Each frame is now readily retained in its proper place by *dropping* wire nails into the holes.

Bee-Smokers.

I have used and worn out different kinds of smokers, and found objections to all of them. Their want of durability—the smoke giving out at times when specially needed, and often they irritate the bees before they are subjugated, throwing them into a belligerency that is transmitted to those not touched by the smoke. It is a golden rule that bees are best handled with gentle manipulation, and in the absence of all noise; the working and the rattling of a smoker, *per se*, surely is not the thing to meet this important axiom.

I finally discarded all smokers now in use, and made one that is so very simple, that I almost hesitate to bring it into notice, notwithstanding it is the best I ever used. I make it thus:

I take an old gallon paint-can with a handle fastened to one side, and running straight out. Then I have a circular tin lid from a lard can, about 14 inches in diameter; it likewise has a handle fastened on one side, leaving the other side smooth and even. The former is the "smoker," and the latter is a "fan" to regulate the fire. This smoker gives a large volume of smoke, and in opening a hive, if there is a favorable current in the air, the "deck" is cleared instantaneously. In a dead calm, the fan is used two or three times, with the same effect. Should there be a blaze in the can, lay the fan over it and it is immediately extinguished, and by removing the fan a great volume of smoke follows.

As there is no puffing and blowing to excite the ire of the bees, consequently

they never make fight with this smoker, and with it you can go in the midst of the most vicious bees with perfect safety.

Selling Honey-Vinegar.

A few years ago honey sold here at a ruinously low price. As I would not deviate from my fixed miminum price, I stored away the finest of my honey, and the rest I turned into wine and vinegar, and made money by the operation. The vinegar I then sold by the barrel as "Honey Vinegar," which met with a ready sale, and soon I was not able to supply the demand. The market was created in this wise:

I put up a few dozen bottles, and had them labeled in attractive colors. These bottles I distributed freely to physicians, and others of the city. This donation created a demand for the article at once.

Making Honey-Vinegar.

As this vinegar was favorably received, for invalids, table use, and for preserving fruit, I will give the process of making it:

From the cappings, and the washing of honey-vessels, cloths saturated with honey, etc., make a clean solution of honey. If it needs more to give it a rich, saccharine taste, add such honey that may be objectionable for the market. Never sell poor, dirty-looking honey. After a perfect solution is made, put it through the percolator, to secure a pure, transparent fluid. Now acidulate the solution with a small quantity of chemically pure acetic acid. This acetic acid is a chemical, concentrated vinegar, and in this connection is perfectly harmless.

The acid will promptly bring the solution of honey into acetic fomentation. After this is effected, add about half an ounce of pure alcohol to the gallon. This will bring about a vinous fomentation, and develops the acetic ether, which gives the honey-vinegar such an excellent body. Without it, it would taste course and flat, with no body about it but a burning acidity, so common in poor and ordinary vinegar.

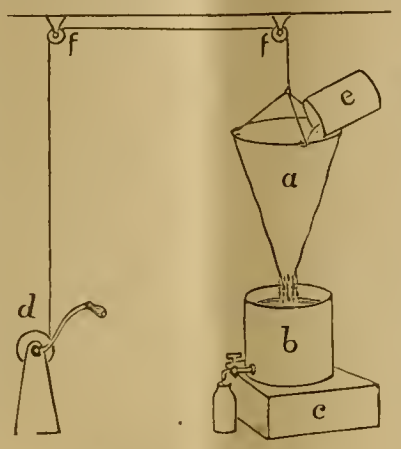
Marketing the Honey.

I find a ready sale for my honey in Austin, and if I commaud the highest price for it, it is because I furnish the finest honey in the market. Yesterday (July 17) I took 100 pounds out of one hive, the half it had, and sold it to my grocer at 10 cents per pound; while country honey was a drug in the market at 6 cents per pound.

I will cheerfully submit my process of purifying and clarifying my honey for the market. It is as follows:

Taking advantage of the fact that it is difficult to retain honey in almost any vessel except glass, I made a percolator (*a*) of a very fine, close muslin, six feet long, with an opening of about 16 inches in diameter, gradually coming to a point, large enough to hold about 100 pounds of extracted honey. This cloth is so fine and close, that when moist it can be made to retain air like a bladder. The honey that oozes through the cloth is a transparent, crystal-like fluid, and in a clear jar it looks so pure, that one is tempted to think it was nectar only fit for angels to eat.

The operation, strictly speaking, is not one of straining, but a percolation, leaving pure honey and nothing else to pass. The process is one of exosmosis favored by a pressure of its own weight.



My Honey-Percolator.

REFERENCES.—*a*, is a cone percolator made of muslin, through which the honey oozes into the receptacle *b*, which has a faucet through which to draw off the honey into jars. *c*, is the stand for the honey can. *d*, is a pulley wheel to hold up and raise the percolator. *e*, represents a jar of honey being emptied into the percolator. *f*, shows the pulley-wheels in the ceiling, through which the rope passes, holding the percolator in place.

I have only to say to my enterprising bee brethren, try it; but do not let your success in producing wonderfully fine honey, tempt you to extortion, but keep yourself to a reasonable and dignified price for your honey, and go hand in hand with the fair reputation of your articles.

Austin, Texas.

QUEENLESSNESS.

Will Removing the Queen, increase the Honey Yield?

Written for the Country Gentleman

BY W. Z. HUTCHINSON.

Quite a number of bee keepers assert that more honey can be secured by removing the queen about three weeks previous to the close of the honey harvest.

The theory is, that stopping the production of brood turns the energies of the bees entirely into honey-gathering; besides this, no honey is used in feeding the brood. Mr. F. Cheshire says that the rearing of a bee, from the egg to maturity, costs a colony the equivalent of four cells of honey; and it is only because a bee, in a fair yield, is able to requite the colony with many times its cost, that a large population means surplus; but if this large population is brought upon the stage after the harvest is over, it becomes a consuming instead of a producing population.

Removal of the queen also prevents increase, which, in out apiaries, is especially desirable. When the bee-keeper has a large number of colonies, and prefers honey to increase, the prevention of swarming is quite desirable. In some localities and seasons the honey flow is early and of short duration, and if the bees turn their energies in the direction of swarming, but little surplus is secured.

When a queen is removed, a frame of brood covered with bees is usually taken with her, and they are put in a small hive, where they are kept until the time arrives for their return. After her removal, if preparations for swarming have not already been commenced in the old hive, queen-cells will at once be started, and the bees thus endeavor to retrieve their loss. At the end of eight or nine days the queen-cells must be cut out and the bees given a frame of eggs or unsealed brood, from which they can start another batch of cells. Just before this lot of cells hatch (in eight or nine days), they must be cut out, and another comb of brood given. This method of management must be continued as long as the colony is left queenless, because, if hopelessly queenless, the bees seem to lose courage; they must have a queen or the hope of one.

The small hive containing the removed bees and queen is sometimes placed upon top of the old hive, and when they are returned, the bees that have learned to recognize the upper hive as their home, will, upon finding it gone, gather in a cluster upon the top of the hive, where they will remain a short time, and then take up a line of march down over the front of the hive to the entrance, and join the parent colony again.

It will be seen that this method of removing the queen entails considerable labor, and is, we think, not advisable, unless to prevent swarming, as the production of brood can be greatly curtailed by contracting the brood-nest, which is a short and simple operation, requiring very little work.

The method of removing the queen, that strikes us the most favorably, is that of allowing the bees to swarm, then removing and destroying the old queen, allowing the bees to return, and then, at the sixth or seventh day, cutting out all the queen-cells except one. This prevents increase, deprives the colony of a laying queen for about eighteen days, besides furnishing it with a young queen.

Flint, Mich.

THE SEASON.

Hiving Swarms—Ants in the Apiary—Bloom, etc.

Written for the Western Plowman

BY C. H. DIBBERN.

It is an old axiom that in order to obtain a good honey crop, you must keep all colonies strong. But this is much easier said than done. As well might it be said that to obtain a good crop of corn, you must have plenty of stalks, of the right size and at the right time. We cannot make the weather and so many other necessary conditions to produce bees in abundance, that we have to do the best we can.

Then, too, it is not always that strong colonies produce a good crop of honey, for did we not have booming colonies last year, and not a pound of honey? This year the cold, wet, stormy weather has been very detrimental to the breeding up of weak colonies, and most of them were weak when they came out of the cellar. Though we had to commence feeding at once, owing to the short supplies, and kept it up till fruit bloom, still they increased but slowly.

The season is fully three weeks late, and we may expect it to last so much longer, and can certainly hope that it will yet prove a good year for bee-keeping. Then, too, the weather that has been so unfavorable to the bees has been just the thing for the honey-producing plants. A good stand of white clover is springing up almost everywhere, and though this will not bloom much this year, it is a promising sign for years.

Our honey plants are coming along finely. I have three acres of sweet clover in one patch that is now as tall as one's head, and will be immense when it comes into bloom. The Chapman honey-plants that I nursed so tenderly in the house a year ago, did not bloom last year, as expected, but they are very thrifty now and will likely bloom this month, and I well then be able to form some idea of them as a honey-plant.

What to do with Second Swarms.

There are likely to be many second swarms this year, and what to do with these often perplexes the inexperienced. I like these late, second swarmings, not to put into hives by themselves and starve the coming winter, but to help weak colonies or to replace inferior queens. If you have any colonies weak at this time, it is almost a sure sign that the queens are worthless.

Now when your second swarms come out, hive them in any convenient box without a bottom. Then go to any weak or queenless colony, and, after smoking them, shake them off the frames in front of their hives on a sheet, and if there is any worker brood in the combs, it is a pretty sure sign that they have a queen—find and kill her. Now get your box and shake the second swarm out, and let all march back to the hive together. Should they be inclined to fight, give them a good smoking with your smoker. If the bees are very cross, it is a good plan to sprinkle them liberally with water sweetened with sugar, not honey, as it is apt to draw robbers and make things worse.

Hiving Swarms.

Much difficulty is experienced by some in hiving swarms, and much bundling up in hot weather is indulged in, and the awkward manner in which the bees are handled produces many stings. Much of this can be avoided. When the swarm issues, go to the hive and see if you cannot catch the queen when she comes out. Usually she can be found a few feet from the hive, trying to fly, or a cluster of workers may be about her. Have a little wire cage ready, made by wrapping a small piece of green wire cloth around a broom stick and one end bent shut. When you see the queen, place the open end of the cage gently over her. She will at once run up into it, and now close up the cage with any convenient stopper.

The bees are, probably, all in the air by this time. Now remove the hive from which the swarm has issued, to a new location, and place the one you wish the bees to occupy in place of the one removed. Now place your queen in the cage on top of the frames, and cover over with mats or anything to confine the bees to the main hive. About this time the swarm will have missed their queen, and will begin to conclude that, "There's no place like home," and will at once proceed to return, and thus hive themselves just where you want them.

But suppose you do not find the queen? then just wait till they settle on some convenient branch. Do not be in any hurry, but wait till they become quiet. Now remove the hive of the colony that has swarmed, as before, and place the empty one in its place. Get a ladder, cut off the limb, if a small one and of no particular value, and if on a high tree, let the branch, bees and all, down gently by means of a rope. Carry the bees to the hive and shake them off on a sheet in front. Usually they will march in readily, but should they show signs of clustering on the outside, take a small twig and scrape them down.

See that nearly all the bees go into the hives, otherwise the queen may be out and in due time they may be expected to leave for the woods. Should the swarms settle on a valuable tree that you do not like to mutilate, they may be shaken into a basket or box, and carried to the hive. It also sometimes happens that they alight on fence-posts or in the crotch of large trees, where it is difficult to get them. In such cases one can usually dip off a part of them with a common tin dipper, and carry to the hive, and the balance can be driven either to the hive, or some place where they can be secured with a good smoke.

Ants and Roaches In the Apiary.

Of all the annoyances about an apiary, ants are perhaps the worst. Often, when putting on cases, one will find their nests in the warm places directly over the bees, under the mat or any convenient place. When disturbed, they at onces spread over everything, and if they get among the bees, they make them very cross.

The little red and black ants are the worst, because the more common, but the big black ant is not to be despised. I do not think they do any harm to the bees or that they steal any honey from them, but they are certainly a great nuisance. Salt has often been recommended to drive them away, but I have found that they will make their nests right in the salt, and they seem to rather like it.

Roaches are also a great nuisance, but if hives are kept tight-fitting, they are more easily guarded against.

The best remedy for ants that I have found is a little kerosene oil in and old fruit can, and apply it sparingly on them, and where their nests are, with an old paint brush. This will kill them, but should be used very sparingly, as the bees dislike it greatly, and it would probably kill them if used carelessly.

Milan, Ill., July 1, 1888.

YELLOW JACKETS.

How to Destroy Vespa Arenaria, or so-called Yellow Jackets.

Written for the American Bee Journal

BY HENRY K. STALEY.

Many are the various ways that have been promulgated for the eradication of this stinging insect when its ire is up.

The yellow-jacket, albeit it has many good qualities, yet to some people it is a nuisance and a pest; at least often so to the grape-growers—when its waxy domicile is incased in his vinegard—for they nonchalantly linger after feminines, which causes them to be scared and to put a good amount of terra firma between it (the vineyard) and the house. It is probably this diminutive rascal that helps to puncture our sound grapes, and thereby make enticing holes for the bee to put in its slender proboscis and sip up the juice, that *nil* may be lost. The bees, in turn, by following out the old aphorism, have the voided rheum of angered grape-growers spat upon them; but it cannot cover up there "little carcasses and keep them down forever;" for the "Bee-Keepers Union" is firm, and twirls the whip of justice. The bee-keeper and grape-grower should ever be on the alert to destroy this insect, which by doing mischief causes blame to be cast at the innocent, is my idea.

It is a great bother to the apiarist when too near his apairy; for, many an hour of needed quietude are the guard bees kept on the *qui vive* for the yellow jacket theives. I have seen them enter the hive, and in all probablities they went away full. I have tried many ways of getting rid of this nuisance, such as pouring hot water down their exit hole, which was the means of raising their choler, and bringing them out by the hundreds, fired mad, bent on destruction; smoking them and also trying to smother them, but in no case have I completely eradicated them without being stung; for, unlike the honey-bee, they stick on a person, and crawl up one's breeches and down his back; so that even if he has completely devastated their nests, he may be made the recipient of a *terrible stinger* an hour or two afterward—when not cogitating about them—from a yellow-jacket *in hoc* among his clothes that will send him skedaddling over the meadow or field to his home for some soothing panacea—for I tell you a yellow jacket's sting, although petite, is felt!

Now the mode of eradicating a nest of yellow-jackets without being *bitten* and exhausted is this:

About four or five feet from the hiatus of the waxy domicile, rear a brush pile, by gathering up all the old brush lying around which ought to be consumed by fire anyhow; and then leave it remain there until night with its encompassing arms environs all. Now let your mind be nonchalant anent them until Phoebus' fiery steeds shall have waded knee-deep into the waters beyond the western hills, and he (Phoebus) shall have allayed his steaming axles with *gelid aqua;* or let it be that hour of night which the following passage

describes, when "Comus" speaks after this manner:

The star that bids the shepherd fold,
Now the top of Heav'n do.h hold;
And the gilded Car of Day
His glowing axle doth allay
In the steep Alantic stream;
And the slope Sun his upward beam
Shoots against the dusky pole;
Pacing toward the other goal
Of his chamber in the East.

Moreover, let it be in that part of the month when the moon is plethoric, and the tide high; also let it be that hour of night before the moon shall have reared his full golden face above the horizon; or let it be in that part of the month when you can see the new moon, "wi' the old moon in' her arms," for little reflected light is then cast from that defunct planet or satellite upon this mundane globe. The darker the night the better, even if it is as dark as the shades of Erubus or black as the atmosphere under the "sooty flag of Acheron," where many hosts of defunct Romans were supposed to trudge.

Supposing, now, everything is in readiness according to the preceding provisions, it is time to go forth to do battle with your enemies, and go it like the "Gilbraltar of Chicamauga!" In the first place, ignite your brush-pile and let it get a good start before you excite the inmates of the waxy palace. Interim, procure a brace of base-ball bats or clubs, and beat the terra firma where the nest is. This racket on the outside will soon bring up the inquisitive little fellows, which, peering into the terrible darkness, will discern the light-giving fire, and without more ado, into it will dart and be cremated—yes, stinger and all, for the whole includes the part.

Keep on pounding until you trow they are nearly all out, when the nest should (if convient) be dug up and twirled into the fire so as to avoid any ripe capped yellow-jacket brood from espying the glowing Eye of Day.

This is a neat, easy, quick and efficacious way. If you have them in your vicinity, try this plan, and instead of being assiduously harassed by them, like Cato was with the Carthagenians, when he said "Delenda est Karthago," you will soon have your enemy *hors de combat*, and able to pour *his own* ashes down into his own hole and fertilize the soil.

Pleasant Ridge, O.

BEE-STINGS.

What Becomes of the Part left in the Flesh?

Written for Gleanings in Bee-Culture,
BY PROF. A. J. COOK.

I am requested by a subscriber to *Gleanings* to explain how the bee-sting is removed from one's skin when broken off in the act of stinging. He suggests that, if it does not work out, it must be absorbed by the system; in which case he thinks that some bee-keepers must be largely composed of stings.

The skin consists of two layers—the outer scarf skin, or cuticle, also called epidermis, and the inner true skin, or corium, also called *cutis vera*. The outer skin is made up of what is known as scaly, or pavement epithelium; that is, it consists of innumerable minute overlapping scales. The inner scales contain pigment in their substance, and thus the color of skin. The albino has no pigment, and hence his skin is transparent, and looks pinkish, as we look right through and see minute blood-vessels filled with blood. The inner skin consists of an outer part, which, like the cuticle, has no nerves, and so is not sensitive to pain or touch. This is made up of white fibrous tissue and small involuntary muscles that contract if the skin is chilled, and drawing the skin away from about the hairs forms the well-known "goose flesh." Beneath this layer, which is known as the reticulum, because of its intercrossing fibers, is the papillary layer. This is the very inner part of the skin. It takes its name from the fact that little teat-like processes—papillæ—push up against the outer part of the shin. The ridges seen on the inside of our hands are but the elevations of these papillæ. Into these papillæ from beneath come nerves and blood-vessels. Thus from here comes all nourishment to the outer skin; and here is the sensitive part of the skin. Thus, a bee to hurt us must push its sting through the cuticle and reticulated part of the corium till it pierces the papillæ, where the blood receives the poison, and the nerves twinge with its venom.

Now, as we understood the anatomy of the skin we can see how the sting, if broken off in the skin, is loosened and liberated. The scaly, or outer skin, is constantly being worn off. When we bathe, the water often is clouded with these minute scales. The snake sheds its scales once a year; but we are doing it all the time. As these scales are constantly wearing off, any minute portion of sting which is held in them is also worn off and separated from the body. Even if a small portion of a sting is caught by the reticulum, the part would probably suppurate and loosen the sting, as is done with slivers that enter and are caught and held in the skin. We thus see that a bee-keeper is not made up of stings, by any means.

In case of porcupine quills, which are barbed like a bee's sting, they are thrust through into the muscle, so that every move of the muscle pushes them; and as they cannot go back, they are pushed on. Thus a porcupine quill my pass some distance through the unlucky animal which has caught them in its tissues.

Agricultural College, Mich.

Convention Notices.

☞ The Darke County Bee-Keepers' Society will hold a basket meeting on the Greenville Fair Grounds, on Friday, Sept. 7, 1888.

J. A. ROE, *Sec.*

☞ The fall meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held on Aug. 21, 1888, at Leaf River, Ills. D. A. FULLER, *Sec.*

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Aug. 14.—	Colorado State, at Denver, Colo. J. M. Clark, Sec., Denver, Colo.
Aug. 21.—	N. W. Ills. & S. W Wis., at Leaf River, Ills. D. A. Fuller, Sec., Cherry Valley, Ills.
Aug. 27.—	Stark County, at Canton, O. Mark Thomson, Sec., Canton, O.
Sept. 8.—	Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.
Oct. 3-5.—	North American, at Columbus, O. W. Z. Hutchinson, Sec., Flint, Mich.
Dec. —.—	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Bees are Doing Well.—Charles D. Barber, Stockton, N. Y., on July 27, says:

It is very warm here at present. My bees have stored more honey in the past ten days than they did in twenty days before. They are doing very well. I have increased them from 2 colonies to 8, and all are good ones.

Wet Weather and Cool Nights.—S. W. Rich, Hobart, N. Y., on July 28, 1888, says:

Bees are not doing very well here this year. I do not think that we will have over one-half a crop. The trouble here has been too cool nights and too much wet weather.

No Surplus Taken Yet.—Mr. John Peters, Eldora, Iowa, on July 25, 1888, says:

It is extremely wet and cold here. Bees have gathered enough to build up on, and to keep up breeding, but I have taken no surplus yet. The clover has not yet come into bloom. I sowed some Alsike clover, but the oats were so rank, and are down so badly, that the bees cannot get at the clover.

Hardly an Average Crop.—B. F. Little, Brush Creek, Iowa, on July 28, 1888, writes:

The weather is warm, and the bees are doing fairly well. Basswood is nearly a failure. White clover is in bloom yet, but the flow of honey is not excessive. The crop will hardly be up to the average, unless the fall honey-flow is extra good. I hope that many new members will join the Union.

White Clover Yielded Well.—Thos. O. Hines, Anamosa, Iowa, on July 28, 1888, says:

This season is a good one for the little honey-gatherers, if we only had them to gather it. Fully 75 per cent. of the bees were lost last spring in this locality, by dwindling. There were but few days until May 20, that bees could fly; so what survived were so weak that they built up slowly, and when the fruit-bloom came, we had but few bees to work on it. White clover yielded well, and they are still getting honey from various plants. Iowa honey will not overstock the market this season.

No White Clover to Bloom.—A. R. Simpson, of State Line, Ind., on July 24, 1888, writes:

This is the poorest of poor bee-seasons here. The dry, hot weather of last year injured the white clover so badly that there was none to bloom this year of any consequence. It looks now just like it does early in the spring, when it is beginning to start up nicely; and as white clover is our main honey source, the bees are not doing anything, for there is no other bloom of any consequence. The bees are not gathering any more honey than is necessary to live on, and we will have no surplus here, unless we have rain sufficient for fall bloom. If this fails, bees will have to be fed again for the winter, or they will starve. The outlook is gloomy indeed.

Expecting a Fall Yield.—Mr. Levi Reichard, of Ellison Bay, Wis., on July 27, 1888, writes:

On Oct. 27, 1887, I put 6 colonies into the cellar, and on April 25 I put them on the summer stands again. One colony had lost its queen, and one had the diarrhea pretty badly, so I united the queenless and sick ones, but they are weak yet; the rest are doing just fairly well, and now it is too dry to do much. They have stored about 35 lbs. of surplus honey all together, from raspberry bloom. The basswood has no bloom, for some reason, but I have 1½ acres of buckwheat, and there will be plenty of goldenrod and asters this fall.

Bees Have Done but Little.—Dr. H. J. Scoles, Knoxville, Iowa, on July 25, 1888, writes:

Bees have done but little here this summer. During fruit-bloom they could scarcely get out of the hives, on account of the cold and disagreeable weather. I had to feed them up to white clover bloom, and that yields but little nectar. We then hoped for the linden, but, alas, our hopes were vain; there was but little bloom, so that if we do not get a fall flow (of which I do not see much prospect), the bees will hardly have enough stores to carry them through the coming winter.

Thousands Wanted for the Union.—W. Addenbrook, North Prairie, Wis., on July 28, 1888, writes:

I send you my annual subscription for the Bee-Keepers' Union. I should feel more satisfied if we only had members amounting to thousands instead of hundreds, as I think that if I could not spare a dollar to defend any pursuit that I was engaged in, I would quit the business, and let some one with more brains attend to it.

Large Fall Honey-Flow Expected.—S. J. Youngman, Lakeview, Mich., on July 24, 1888, writes:

As I predicted in my letter of June 24, there was but little basswood honey, consequently we have had no honey from any other source but the white and Alsike clovers, and mostly from the latter. I built up my bees to very large colonies, having three hives, Langstroth size, one above the other, and I have taken 4 gallons of extracted honey per colony, and have had but 2 swarms. I am expecting a large flow of fall honey, as there is both early and late sown buckwheat, and the bees have already commenced to work from that source. In consequence of the extreme drouth, the bees have bred but little, seeming to care little about swarming, unless confined in small quarters. Bees under such conditions have swarmed considerably, but have yielded no honey to their owners. Although no large amount of rain has fallen, the atmospheric conditions seems to be right for a honey-flow, and the bees are humming joyously, and are working with great vigor. But the season is too far advanced for a successful year with bees. Honey will again be scarce, and bring a good price.

Sterile Queens, etc.—Edward C. Luce, Hillsboro, Oregon, July 23, 1888, says:

I noticed on page 452 an item from Mr. C. A. Pardee, about a sterile queen. I removed a queen on July 19, affected in a like manner. Bees have stored some surplus from white clover, when it did not rain, it being the only good honey-plant that we have. I have 8 colonies of bees in Simplicity hives. I am 15 years of age, and I have transferred 10 colonies of bees for neighbors and my father, besides doing other work.

Rearing Brood Rapidly, etc.—J. O. Shearman, New Richmond, Mich., on July 28, 1888, says:

Bees have done but little with honey here. Clover was a failure on account of unfavorable weather. Basswood was short and sweet; I got some, but no finished sections. The bees are getting some fall honey now. Bees have reared brood at a tremendous rate, as there is just about enough honey coming in to breed fast, and not any to store for surplus; therefore my colonies have increased more than usual.

Preventing Bee-Stings—Honey Prospects.—Mr. Wm. Malone, Newbern, Iowa, on July 26, 1888, writes:

I have tried holding my breath to prevent bee-stings while putting my hand between two combs one cool morning. I did not hold my breath very long, I can assure you. The first conclusion I arrived at was, that there was one fool that was not dead yet. If any one thinks that the fools are all dead, just try the experiment once, and I think you will be satisfied.

There is not much honey yet. I have taken only 500 pounds from 46 colonies, spring count, and I increased them to 75 colonies. If August does not give us any honey, we will be "left" this year. The prospects are good for August, and we will live in hopes, even if we do not get the honey.

Good Report from Texas.—W. S. Douglass, Lexington, Tex., on July 28, 1888, says:

Bees have done better in Texas this year than they have for 5 or 6 years. Every bee-keeper has some honey for sale. One county alone produced 100,000 pounds of honey; and one man in Williamson county had 20,000 pounds. Comb honey is selling for from 10 to 12½ cents; extracted from 6 to 8 cents per pound. I started in the spring with 36 colonies, and increased them to 51, by natural swarming. I have sold some honey at 12½ cents, and I have a great deal more to take out of the hives. I have tried several different kinds of hives, and I am now going to adopt the Langstroth. I believe it is the best for producing either comb or extracted honey.

Honey from Corn, etc.—William Crouley, Redwood Falls, Minn., on July 28, 1888, writes:

The linden yielded the first honey here on July 15, and will close about Aug. 1. I expect to get about 1,800 pounds of linden honey, nearly one-half of it in one-pound sections, from 47 colonies, spring count, and 2 queenless ones, which were not much better than nuclei. It took so long to get my colonies queened. Bees did not build up much here until the middle of June, on account of the cold, wet spring. Part of them were not in a condition to take advantage of the honey-flow. I was obliged to do some feeding, and pack them on the summer stands, in order to bring them through. As near as I can learn, about three-fifths of the bees in this region perished during the winter and spring. My bees work very diligently on corn; they did not desert it for basswood. I have had only 4 natural swarms this season. I expect a moderate honey-flow from now until frost, as we are having an abundance of rain, and all kinds of vegetation has a rank growth.

Full Treasury a Safe-Guard.—A. S. Goodrich, Worthington, Ohio, on July 30, 1888, writes:

Here is my dollar and my vote. I live in a locality where I never will be troubled by my neighbors or the public, therefore I do not expect to be benefited by the Union, but I feel it a duty to "cast in my mite" to assist those who are not so favorably situated, and to sustain an honorable pursuit. It is very strange that so few respond to the call. If one-half of the bee-keepers in the United States would join the Union, it would fill our treasury so full that they would never need another assessment, and we would be able to kill all opposition "too dead to skin."

Bee-Culture in Arizona.—Messrs. Harmon & Skinner, Zenos, Arizona, on July 25, 1888, write:

Bees are doing fairly well here. We have taken 520 gallons of honey, and have about 60 gallons more ready to take off. Our first extracting was entirely unfit for table use. We began with 32 colonies in good condition, and about the same number that were rather weak. We have purchased some, increased some by dividing, and by natural swarming, and now we have 120 colonies, mostly in good condition.

Honey Coming in Slowly.—M. L. Spencer, Little Genesee, N. Y., on July 24, 1888, says:

Here we are having a very cold season, especially the nights are cold. Bees have been getting a little honey for some time, but it comes in very slowly. Colonies are very strong. I send $1.00 for membership-fee to the Union. It seems to me that the bee-keepers of the United States are not looking to their own interests, in not joining it.

The Convention. — The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices: —Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.
HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.
June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-pound sections, 14c. No new in market, and old is not selling.
BEESWAX.—22@23c. Supply limited.
July 24. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—We get 15c. per lb. in a small way for best comb, and less for off grades. Extracted, best white, 7@8c. None of the new crop received yet, but there is more than sufficient of the old crop for the light demand.
BEESWAX.—22c.
Jun. 30. R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@65c. per gallon.
BEESWAX—Dull at 23½@24c.
Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—No white clover left in this market. Dark slow sale at 8@10c. Extracted ready sale on arrival. New crop will meet with good demand.
BEESWAX.—22c.
Aug. 2. S. T. FISH & CO., 189 S. Water St.

CINCINNAT.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
July 11. C. F. MUTH & SON, Freeman & Central Av

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 14@16c.; 2-lbs., 13@14c.; 3-lbs., 12@13c. Extracted, white in kegs and ½-barrels, 8@8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 6@6½c. Demand good for extracted, but dull for comb.
BEESWAX.—22@25c.
July 2. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@23c.
Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: 1-lb. sections, not glassed, at 18c.; 2-lb. sections and dark ones, also extracted, is not in demand. New honey is arriving freely, with a fair demand. This part of the State is favored with half a crop.
BEESWAX.—None in market.
July 20. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON

HONEY.—We quote: 1-lb. sections, 14@16c.; 2-lb. sections, 12@13c. New Florida extracted, 8@9c. Sales are very dull.
BEESWAX.—25 cts. per lb.
July 5 BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Choice new extracted, 5 to 5½c.; amber to light amber, 4½@4¾c. Choice comb in 1-lb. sections, 13@14c.; 2-lbs., 12@13c. Arrivals are small, as apiarists are holding back. Prices are considered high.
BEESWAX.—18@22c.
Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.
June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, dark, 4@4¾c.; bright, 5@5½c.; in cans, 7@8c. Comb, white clover in prime condition, 13½@15c.; dark, 11½@12½ cts.—Market quiet and demand fair, owing to the warm weather.
BEESWAX.—22c. for prime.
July 26. D. G. TUTT & CO., Commercial t.

Conventions.—The time for holding Bee-Keepers' Conventions will soon be here, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Wanted.—One copy of the AMERICAN BEE JOURNAL for July 21, 1886, Vol. 22, No. 29. Any one having it to spare will confer a favor by writing to Arthur C. Miller, Drownville, Bristol County, R. I.

The Fourth Annual Fair at Mitchell, Dakota, will be held on Sept. 24, 25, 26, 27 and 28, 1888. Send for a premium list to W. F. T. Bushnell, Secretary, Huron, Dakota.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

Advertisements.

ITALIAN QUEENS—Untested, 75c. each; 6 for $4.00; 12 for $7.50. Address,
26Atf John Nebel & Son, High Hill, Mo.

CARNIOLAN

QUEENS.

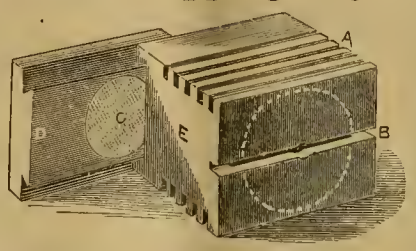
Gentlest bees known; not surpassed as workers even by the wicked races. Imported Queens, "A" grade, $6.00, Tested, $4.00; Untested, $1.00.

One-half dozen $5 00

Never saw foul brood. Cash always required before filling an order.

S. W. MORRISON, M. D.,
14Etf Oxford, Chester Co., Pa.

Queen Shipping-Cages.



WE have a lot of Queen-Cages, like the one illustrated, not provisioned, which we will sell **3 for a dime,** by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

FLORIDA Agricultural Weekly—20 pages. Established 1869. GARDENING, FARMING, **FRUIT-GROWING, Home-Making.** Full information about the State. $2 a year; 3 mo. 50 cts. *Specimens Free.* THE FLORIDA DISPATCH, Jacksonville, Fla.
20A13t

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.
Mention the American Bee Journal.

VICTOR

SAFE.

DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the **Home**—in fact **every one** should have a secure place for valuables.

We offer in the **VICTOR SAFE** a **first-class** Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with sub-treasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,... CHICAGO, ILLS.
Mention the American Bee Journal.

HEDDON HIVES FOR SALE.

I **HAVE** a hundred, all complete—just finished. Purchaser given right to use them, by Mr. Heddon. Will sell at $3.00 each, in lots of 10 or more. Inquire of,
27Atf **E. D. KEENEY,** Arcade, N. Y.
Mention the American Bee Journal.

BEE-SUPPLIES, RETAIL AND Wholesale.

The Largest Steam-Power Shops in the West; exclusively used to make **Everything** needed in the Apiary, of practical construction and at **Lowest Prices. Italian** Bees, Queens, 12 styles of Bee-Hives, Sections, Honey-Extractors, Bee-Smokers, Bee-Feeders, Comb Foundation, and everything used by Bee-Keepers always on hand. My Illustrated Catalogue FREE. **E. Kretchmer,**
16Etf **Coburg, Iowa.**
Mention the American Bee Journal.

GLASS PAILS FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.

Prices are as follows:

To hold 1 pound of honey, per dozen, ... **$1.60**
" 2 pounds " " **2.00**
" 3 " " " **2.50**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS.

SAMPLE COPIES of the **AMERICAN APICULTURIST** and our Price-List of **Winter Strain of Pure Italian Bees** sent free. Address,
18Etf **APICULTURIST,** Wenham, Mass.
Mention the American Bee Journal.

HANDSOME

ONE-PIECE SECTIONS.

WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

BY Return Mail—Italian and Albino Queens, Tested, 90c. each, or $10 per doz. Untested, 60 cts. Four-frame **Nuclei,** with a tested Queen, $2 00 each.
GEO. STUCKMAN, NAPPANEE, IND.
30Etf

NEW ONE-POUND HONEY PAIL.

THIS **new size** of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **Price, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.....CHICAGO, ILLS.

ITALIAN BEES and QUEENS.

ONE Untested Queen, $1.00; 3 for $2.00. BEES by the Pound and Nucleus. Send for Price-List. Address, **H. G. FRAME,**
9E13t **North Manchester, Ind.**

THE AMERICAN BEE JOURNAL CIRCULATES ALL OVER THE WORLD
PUBLISHED BY THOS. G. NEWMAN & SON, CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Aug. 15, 1888. No. 33.

EDITORIAL BUZZINGS.

August—month when summer lies
Sleeping under the sapphire skies:
Open all the windows wide,
Drink the orchard's fragrant tide—

Breath of grass at morning mown
Through the leafy vistas blown—
Hear the clinking of the scythe
Sound mellifluent and blithe.

August, month when everywhere
Music floats upon the air,
From the harps of minstrel gales
Playing down the hills and dales.

—*Frank Dempster Sherman.*

We Have received photographs of Mr. H. E. Hill, of Titusville, Pa., and his apiary, which are placed into the BEE JOURNAL Album, with thanks. Mr. Hill has had charge of an apiary in Cuba, and may return thither this fall to superintend it again during the coming winter.

Fifty Years Ago.—Mr. Lemuel Stout, of Philadelphia, Pa., writes us that he has been overhauling a hive of bees at the Penn Hospital in that city, which the Rev. L. L. Langstroth placed there over 50 years ago. They are in a Colvin hive. Of course they are not the same identical insects, but their progeny; and the hive is old.

England is not more favored than America in the matter of a honey crop this year. In a letter just received from Messrs. George Neighbour & Sons, of London, England, they say: "This is a sad year for honey producers. We are experiencing so much rain." Even though misery does love company, we are very sorry to hear the discouraging report from our English brethren. We *must* have a good season next year, surely, after so many poor seasons.

Decidedly Unpleasant, is what the *Australasian Bee Journal* calls the so-called "scientific pleasantry" of Prof. Wiley. It says:

Coming from a scientific man, the statement was generally believed by the public, and incalculable harm was done to the honey trade in America, and the fable is still believed by many persons. On the Professor being called to account, he excused himself by saying that he meant it only as a "scientific pleasantry,"—amusing, no doubt, to himself, but decidedly unpleasant for the unfortunate bee-keepers with tons of comb honey on hand.

Nebraska Fair.—Arrangements are being made for a grand display of bees, honey, and apiarian supplies at the coming Nebraska State Fair, to be held at Lincoln, Nebr., from Sept. 7 to 14. This department is to be assigned to permanent quarters, and $600 has been appropriated by the Board for the erection of a suitable building. For further information write to Hon. R. W. Furnas, Brownville, Nebr.

Mr. E. Whitcomb, of Friend, Nebr., is Superintendent of the Apiarian Department. We hope that the display will be even better than last year, when it was excellent, and a credit to the bee-keepers of that progressive and enterprising State. Mr. Whitcomb is editor of the weekly *Telegraph*.

The Michigan Farmer of last week contains a very *wily* article on the explanation offered by the National Chemist. Among other fallacies and foolishness, it says:

The AMERICAN BEE JOURNAL admits that honey *has been* adulterated, but alleges it is not done now, but simply because the price is so low it does not pay. Prof. Wiley's article in the *Popular Science Monthly*, which stirred up such a bees' nest, was written in 1881. Both charge adulteration, but differ in how it is done. It makes little difference to the consumer how he gets his glucose, if get it he must.

While Wiley was speaking of comb honey, we were writing of extracted honey, and the writer of the above ought to have known it, if it did not wish to deceive, and in this *wily* way endorse the Wiley lie!

Holding the Breath to Prevent Stinging.—J. H. Amos, Andes, N. Y., on July 30, 1888, says:

On page 467, there was an item on how to prevent stinging. It said that by holding the breath, bees, hornets, etc., could be handled without stinging, thus being unable to sting, as holding the breath closed the pores of the skin. Now I believe such to be untrue, as I have tried it myself, and have seen it tried, until I am satisfied that it is a humbug; or else I lack knowledge of how to hold my breath. If there is any truth or virtue in the thing, please let me know in your next issue.

We published it for just what is now being enacted—experiments. The reports already received are against the theory advanced. Next.

The Forests and Rain Fall.—Last year the theory was advanced that the destruction of the forests was the cause of the drouth. Now the opposite is the case; rain is abundant, and Mr. J. A. Foote, in the *Indiana Farmer*, makes these unanswerable arguments against that theory:

Will you now be so kind as to tell us whether the forests have been restored? This is not a child's question—it is pertinent—it is unanswerable. If the want of forests was the cause of drouth last year, why do not they prevent rain this year. The only possible answer is that there are other and greater factors in the case. That is exactly what I have all along contended for. The causes of rain and drouth are world wide—beyond man's control, unless he can erect barricades like the Rocky Mountains, in other directions across the continent, or pump the Gulf of Mexico dry, or do some such feats as these.

Some one, in your columns last year, in view of the serious drouth, proposed as a remedy, numerous ponds throughout the State, on the theory that these would furnish moist air to be precipitated in rain. If he had only taken a moment to look at Wisconsin, bordered on two sides by great lakes, and spotted throughout with little ones, and observed that the drouth was as bad there as in Indiana, he might have saved the premature birth of that theory. Then later, in your columns Prof. Barker showed that the rainfall near Lake Michigan was less than in the interior of Indiana. That was conclusive too, as regards that theory.

The Prairie Farmer of last week was silly enough to defend "the Wiley lie," claiming that glucose was cheap, and like oleomargarine, was healthy, and would be used because of its low price. It also approves of the assertion of Mr. Wiley, when he said that "the adulteration of honey is practiced now to an alarming extent"—when every one knows that it is not so practiced, because it will not pay to do so, on account of the low price of honey.

Two Fine Photographs of our friends Charles Dadant and Son are received and placed in the BEE JOURNAL Album. The likeness is striking in each, and it seems almost as though they could speak—they are so natural.

Funny-dote.—The Crawfordsville, Ga., *Democrat* is responsible for this amusing item:

Charley Mason, of Crawfordsville, Ga., was intently watching the process of taking honey from a hive when a bee flew into his ear and was immediately out of sight. Charley turned in alarm to the doctor. "Hold perfectly still Charley, maybe he'll come out." Charley, with wonderful nerve, did as directed, and stood like a statue. In the meantime his adviser, in deep sympathy, watched for the appearance of the bee. Pretty soon, to his great delight, he saw the insect slowly backing out, and Charley had not yet been stung. But here comes the fun. No sooner did the bee get freedom of his wing, that it made a centre shot for the doctor, and became entangled in his hair. Maybe you have read "Sut Lovingood's daddy acting boss and plowing into a hornets' nest." Charley held perfectly still—the doctor didn't.

UNION AND VICTORY.

Still Another Victory for the National Bee-Keepers' Union!—Z. A. Clark's case, who was put into jail at Arkadelphia, Ark., last spring, for maintaining his apiary in the suburbs of that city, came on and was tried before the Circuit Court in the July term. The case was tried on the "clean-cut" law question, viz: That the "city ordioance was illegal and void." The first **victory** in this case is **for the Union,** the Circuit Court deciding that the city ordinance was *illegal and void*—that **the keeping of bees was NOT A NUISANCE!!**

When the prosecution realized that bee-keepers had an organized body for defending the pursuit against the malicious attacks of the ignorant and the prejudiced, it *weakened*—it tried "to hedge"—was willing to dismiss all the cases against Mr. Clark on a pretended iuformality in his bonds!

The City of Arkadelphia has decided to appeal the case to the Supreme Court. This is very fortunate, for we want a decision which will count! One from the highest court is what we need to declare that bee-keeping is *not a nuisance!* And it will be done. The Union has paid the retaining fee, and it will be ably defended again by Judge Williams, the most successful attorney in Arkansas, who assures the General Manager of the Union that he is ready for the fray. The Supreme Court meets next October.

Here is what the Little Rock daily *Gazette* of Aug. 7 remarks about the trial, under these headings: "A Celebrated Case. After a Long Legal Contest, the Little Busy Bee is Set at Liberty at Arkadelphia:"

The celebrated bee-case, which excited so much interest in Arkadelphia, last summer, was decided yesterday in the Circuit Court, Judge Hearn presiding. The case was the City *vs.* Z. A. Clark, for violating a City ordiuance declaring the keeping of bees, within the city limits, a nuisance. Mr. Clark resisted the ordinance upon the grounds of interfering with a natural right. Judge Hearn held that the ordinauce was void because it declared the keeping of bees a nuisance *per se*, which the law does not recognize. Considerable interest is manifested in the case, the National Bee-Keepers' Union, of Chicago, being the backers of Mr. Clark. The city has appealed to the Supreme Court.

It is not only the **privilege** of apiarists to belong to such a "Union" for defense—but it is a **high honor.** Like the Royal Huzzars of history, the Union has never yet been beaten! **Victory** has perched upon its banner in every contest so far undertaken in the defense of the rights of its members! This is, of course, attributable to the care exercised in canvassing the cases before deciding to defend them; to make sure that they are RIGHT before going ahead with them! For if not *right*, it would be better to be beaten than to be victorious.

Mr. Clark writes us the following statement of the case, which will be read with interest:

ARKADELPHIA, Ark., Aug. 7, 1888.

FRIEND NEWMAN:—I received your telegram yesterday evening, in answer to the one I sent you, asking me to send full particulars. I have been feeling so elated, being congratulated by friends so much—(since the burial of the "nuisance case") that I hardly feel able to write. Everybody in our little City, white and black, are rejoicing but the anti-bee-council and their followers.

The case came up on Saturday, Aug. 4, when the City Attorney began to show weakness by trying to turn us out of court, on a motion to dismiss all the cases against me, on the informality of my bonds, stating that my boud was not sufficient, but Judge Hearn over-ruled the motion.

When my attorneys, Judges S. W. Williams, Witherspoon, Murray and McMillan made a motion to dismiss the cases against me upon the *voidness* of the ordioance, Judge Williams made an able speech in defense of bee-keepers, in which he showed that he knew something about bees himself, having been an old bee-hunter in the early settlement of Arkansas. After which, the Judge stated to the attorneys that he had lived a long time in Arkadelphia, and that bees had been kept here all the time, and that he had not heard any complaint until this case came up—and that the keeping of bees *per se* was not a nuisance. He reserved his decision until Mouday morning at 9 o'clock, when he stated that the case would go to the Supreme Court, no matter in which way it was decided, but stated he wanted to be found on the *right* side, when decided in the Supreme Court. He theu sustained our motion to dismiss the case, and declared the ordinance void. The City Attorney then gave notice of an appeal. Hence we go up higher amid the cry of "victory" and "hallelujahs."

This shows what brothers can do when banded together, with a captain like Thomas G. Newman, to direct our battles against ignorance and the prejudicial whims of an ignorant populace. Z. A. CLARK.

Reader, did you ever think of what a power there is in an organized defense? and what a powerful defense it is, when the members of the pursuit combine and engage the best legal talent which can be had—and plenty of it—and planting their feet squarely upon the constitution of Freemen—in this "Land of the free and Home of the Brave"—they demand the rights guaranteed to every "honest son of toil" by that *magna charta* of American liberty and independence—the Constitution of the United States!!!

INTERROGATORIES.

Races of Bees—Verbena, etc.—Ira N. Lyman, St. Peter, Nebr., on July 28, 1888, writes:

I read of so many kinds of bees, and so much difference of opinion as to different markings of bees, that I would like to ask a few questions:

1. Should not thorough-bred Italian bees have three broad, yellow bands? and are they not lighter colored than the common brown or black bees, as they are called?

2. Are not the bees reared in the Northern States the best to get queens from, to live in the Northern States? Are not Southern bees something like Southern cattle, that cannot stand the hard, cold winters of the North as well as Northern-raised cattle?

3. I received a queen from New York on June 24. It was introduced into a queenless colony of hybrid-Italians, that had two nice, broad, yellow bands; and at this time I cannot see any change, only I think there are some of the bees with one and two bands, that are darker at the rear than any there were in the hive before. It is 34 days since I got the queen; ought not the young thorough-breds to be out in full force before this?

Bees are doing pretty well now, but we had so much bad weather before and during the time they ought to have swarmed, that they were not able to get honey to rear brood, and were very light. Some bees had to be fed to keep them alive at the time they should have been swarming. There is one man here that had 80 colonies in the spring, and has had only 12 swarms. Bees are doing well now. Mine are storing honey in the surplus boxes.

4. I send a honey-weed to be named. The bees worked on it nearly all summer—longer than on anything else.

1. Pure Italian bees have three bright, yellow bands, and their bodies are of a light brown color.

2. Bees carefully reared in the South are usually quite as hardy as those reared in the North.

3. Yes; the Italians would now be out in force, if the queen was pure and safely introduced. But are you *sure* the colony was queenless? If not, the new queen might have been killed, and no change has been made in the race of bees.

4. The stem and flower sent is that of the verbena, one of the vervains, which, having a dense spike of blue flowers, grows 2 or 3 feet high, along the streams and barren waste-places throughout all the Northwest. It is a valuable honey-plant.

Clover Dodder.—The Rev. L. L. Langstroth, of Dayton, O., on July 30, 1888, writes thus to Prof. Cook:

I send you a plant for name. It twines around the red clover and kills it. I send you one clover plant killed, one closely hugged, and the plant in blossom. It seems to be new here, and might become very destructive. Please answer this in the AMERICAN BEE JOURNAL.

The following is the reply forwarded by Prof. Cook:

The plant sent by our friend is the clover dodder, *Cuscuta trifolii*, so named because it encircles and kills our common clover. The plants resemble wrapping twine, and by coiling around other plants, destroy them. Thus the dodders are really garroters. They seize and strangle their victims. We have several American dodders. The clover dodder is imported from Europe. The only remedy is to root up like any other weed.

Hood's Political Points.—A handy little book for the Presidential campaign, is just out. It contains finely engraved portraits and sketches of the candidates for President and Vice-President (Rep., Dem. and Pro.), electoral and popular votes in previous elections, and other useful information. Copies may be had free at the druggists, or by sending a 2-cent stamp to C. I. Hood & Co., Lowell, Mass.

BIOGRAPHICAL.

Major Francesco de Hruschka.

The following biographical sketch of Major Hruschka, is from the pen of Mr. Charles Dadant, of Hamilton, Ills., who wrote it for *Gleanings* some time since:

The Major Francesco de Hruschka died in Venice, May 11, 1888, aged about 75 years, leaving a beloved wife and several sons. Nothing is publicly known, so far, of his birth and younger years, the major having been very reluctant to speak of himself.

From information published by an Italian bee-journal, *L' Apicoltore* (August, 1878), it appears that he served in the army, and, later, in the navy, of

Major Francesco de Hruschka.

the Austrian Empire, the Italian province of Venetia, in which he lived, being then under the dominion of the Emperor of Austria.

He had attained the rank of major when he relinquished the service to enjoy the happiness of living with his family in his home at Dolo, near Venice, where he kept a large number of colonies of bees, rearing Italian queens for Germany, and manufacturing hives and other bee-keepers' appliances.

His increasing business compelled him to remove to Venice, where he resided for part of the time. The city of Venice is built on 70 or 80 very small islands, which connect with one another by more than 300 bridges. Instead of streets, Venice has mostly canals, traversed by gondolas, which are used as conveyances from house to house, instead of street-cars or carriages. The city is separated from the *terra firma* by a lagoon of shallow water, from two to four miles wide, on which the gondolas may be seen day and night. Such position makes Venice the most wonderful city for the tourist to visit, but, for the same reason, the worst city in which to keep bees, that can be imagined. Hruschka owned a palace, in the city in which he dwelled, though boarding at the hotel, to follow his trade, while his bees were at Dolo.

Fig. 1—Hruschka's First Extractor.

From what he narrated, on his invention, to the Italian bee-keepers, it appears that, in 1865, a small piece of comb in a dish having been put in a basket fixed to a rope, and whirled around like a toy, by his little son, a few drops of honey were slung out of some of the cells. These few drops were, for his observing mind, the germ of the large step in bee-culture which resulted from his invention. The application of this idea underwent several changes and experiments.

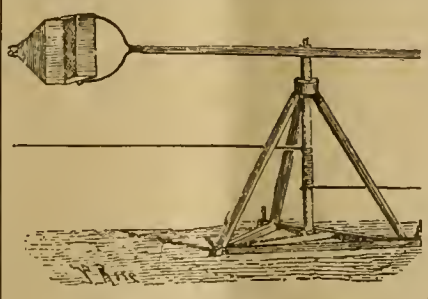


Fig. 3—Hruschka's Second Extractor.

The first machine made by Hruschka was a square tin box, the bottom of which, covered with wire cloth, was funnel-shaped; a glass was fastened under it to receive the running honey.

The glass was soon discarded, and replaced by a stopper. The box was suspended by a rope, and turned like a sling (Fig. 1). But as the work of extracting was very slow with such a primitive machine, Hruschka invented a large, triangular frame, at the center of which a vertical spindle, turning on a pivot, supported a horizontal beam 12 feet long, at both ends of which the boxes were suspended. Two ropes, one rolling round while the other unrolled, moved the slinging-boxes, which, dropping vertically as soon as the motion stopped, prevent the honey from running out. The length of the beam helped the extracting by increasing the speed of the motion (Fig. 3). But this big machine proving too cumbersome, Hruschka invented another extractor, with a crank and two different-sized wheels, joined by a string. Nearly all the machines now in use are only modifications, or, rather, improvements, of this (Fig. 2).

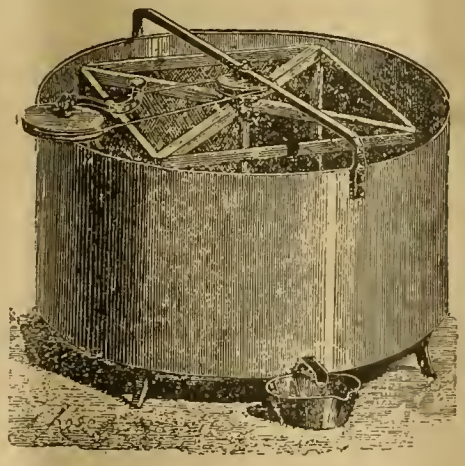


Fig. 2—Hruschka's Perfected Honey-Extractor.

Reduced models of these first three extractors were exhibited at the Exposition of Insects, held in Paris, in 1868, entered under the name of Angelo Lessame, of Dolo, Venetia. It is very probable that the Major de Hruschka, in borrowing this name, was prompted by his modesty. It is useless to add, that the grateful remembrance of Hruschka will last as long as his invention will be used by bee-keepers—I mean, for ever. CHAS. DADANT.

Hamilton, Ill.

We noticed the death of this very distinguished gentleman and apiarist several weeks ago, on page 419, and gave the interesting history of his invention of the mel-extractor. The additional biography given above by our friend Dadant, is very entertaining, and with the engravings, present the history of the development of the useful honey-extractor very clearly. It doubtless will be read with no little pleasure by every bee-keeper.

QUERIES & REPLIES.

Hiving Bees on Sunday.

Written for the American Bee Journal

Query 568.—Which is the proper thing for a Christian man to do on the Sabbath, in swarming time—stay at home from church and hive the swarms that issue, put on drone-traps on that day, so as to detain the queens, often causing worry and loss to both bees and bee-keeper? or let what swarms issue go to the woods, as some of our most conscientious people say that we should?—Apis.

Clip queens' wings.—P. L. VIALLON.

Stay at home and hive the bees.—DADANT & SON.

The Christian man should always stay at home and hive his swarms when necessary.—J. P. H. BROWN.

I stay at home and care for the swarms, but I do no work with bees on Sunday that can be done on another day.—G. M. DOOLITTLE.

Save the bees, by all means. On the subject of religion and morals, why not consult the good and earnest Christians about you, or in your neighborhood?—A. B. MASON.

Being a preacher of the Gospel, I of course do not stay at home to watch the bees. I clip the wings of my queens, and if a swarm issues on the Sabbath while I am at church, they will return to the hive, and try it again on Monday. If it is right to pull an ox out of a pit on the Sabbath, it is right, under ordinary circumstances, to hive a swarm of bees on that day.—M. MAHIN.

He should be governed by the dictates of his conscience. If my ox should fall into the ditch on the Sabbath day, I should pull him out if I had to get a derrick.—MRS. L. HARRISON.

I see no harm in staying at home and taking care of issuing swarms. The queen and drone trap will prevent swarming, and can be safely used for that purpose. I do not allow my bees to swarm naturally.—J. E. POND.

I would stay at home rather than lose them. I would clip the wings of all the queens, and cage them when they swarmed, letting the swarming bees return to the old hive—unless I could find a better way.—C. C. MILLER.

It is certainly our duty to adopt measures to prevent temporal loss, but not at the expense of the spiritual; and here we will let every man's conscience decide.—J. M. HAMBAUGH.

Save your bees any way. If the wings of the queens are clipped, it is easy to save colonies with scarcely any labor. We have simply to catch and cage the queen. If one person must remain at home each Sunday (but it is only for a few weeks), by taking turns this is not very trying, especially if one has a good book or paper, as all should have.—A. J. COOK.

If one's colonies are not numerous, traps can be used with little loss or inconvenience, and therefore should be; but it is otherwise if the apiary is a large one; then, in my opinion, it would be a Christian duty to stay at home and save one's self, and therefore the world, from loss. But the injunction, "Let every man be fully persuaded in his own mind," is of the first importance.—R. L. TAYLOR.

This is a moral question which I think every Christian man or woman is capable of deciding for himself or herself. The swarming season in my locality does not include more than three or four Sabbath days in the year; and while watching over and caring for my bees on these three or four Sabbaths, I devote less time to my apiary (on Sundays), taking the year around, than I am compelled to do with my small herd of Jersey cows.—G. W. DEMAREE.

I think that every "Christian man" should be governed by the dictates of his own conscience in cases of this kind. If you are really a good Christian, you will not lose any of your christianity by remaining away from church in the day time, for a few Sundays, to hive what bees may swarm. At the same time, you can read something besides political and sensational papers.—H. D. CUTTING.

If you must keep bees, I see no more harm in giving them *necessary* attention on the Sabbath than feeding your horses, milking the cows, etc. I have had no experience with drone-traps—you might try them and see how they work. It would be folly to allow the swarms to go to the woods.—C. H. DIBBERN.

It is proper for a Christian man, or any other man, to be diligent and correct in his business. We should feed our horses, milk the cows, or if an animal has fallen into the pit, pull it out on Sunday, if we did not know it before. We have no "Sabbath" as such; we have instead the Lord's Day—a day of religious festivity and Christian work—not a day in which nothing is to be done, but the one day in the week in which the Lord expects full time. If we have farms, if we have animals, if we have bees, if we have families, the Lord gave them, and he expects us to care for them daily.—J. M. SHUCK.

What is the proper thing for a Christian *woman* who has a baby, to do on the Sabbath? to go to church and let the baby disturb half the congregation, or stay home with it? Some maintain that she should go, even if she has to take the infant squall along. So some argue that a bee-keeper should go to church anyhow, to the neglect of important and unavoidable business, which, if he is successful, God has commissioned him to attend to. I think that no man should neglect important business for the sake of *appearing unto men* to be religious. The Savior did not so teach. I believe in the *spirit* of Christianity, and in the gospel of good works, rather than in the letter and the appearance. If we are especially fitted to carry on any business, I believe it is our duty to guard it. Success is a good thing for a Christian if he will do good with the money. If one has a large apiary, I hardly see how he could neglect it in swarming time, if the weather was fine. But we need not watch the bees all summer. The swarming fever is usually of short duration, and a skillful man knows pretty nearly when to look for it. If the queens' wings are clipped, and the apiary managed to prevent after-swarms, but little harm could come from a short absence. I hardly ever stay at home myself to look for swarms, nor do I require the boys to do so on Sunday. I never have lost but one swarm while at church. But I live within 80 rods of church, and am not necessarily away more than two hours. This is a question which every one must answer for himself, in the light of his surroundings, and of the appliances which are known to the fraternity to control swarming. When we have learned to control swarms at pleasure while working for comb honey or increase, then the Sabbath question will be easily answered. If it is right to milk the cows and feed the teams on Sunday, I cannot see where the harm is for us to look after the bees, since God implanted in them the instinct which impels them to swarm.—E. SECOR

The proper thing for the Christian man, or any other man, woman or child to do is, to do right according to the dictates of their own consciences, whenever they are not, by so doing, infringing upon the rights of others. You will fail to find any injunction anywhere within the Bible against working or playing on Sunday. There are such against working on Saturday, the Sabbath; but such able, religious historians as Martin Luther, John Calvin, Peter Heylin, John Frith, John Milton and others, agreed that these commandments were binding only upon the Jews, else the Christian's day of worship could not have been changed from Saturday to Sunday—the day which the Sun worshipers always held sacred. The Bible Sabbath once having been abrogated, there is no longer any need of Christians keeping any day as a holy day.—JAMES HEDDON.

A "Christian" should make no attempt to keep the Jewish Sabbath. It cannot be done in this latitude—no matter how much it may be attempted. Christians are not bound by the old Jewish law which Christ "took out of the way, nailing it to his cross." Sunday is a day for religious devotion and work, and it is no more harm to "hive the bees" than it is to "milk the cow" or "feed the stock" on that day. Christ approved works of mercy and charity even on the Jewish Sabbath; and when his disciples went through the cornfields on the Sabbath day and "plucked" some of the "ears" for food, some of the captious ones wanted Christ to rebuke them—but he raised himself high above the plane of their thoughts, and refused to rebuke his followers, remarking: "The Son of Man is lord [or master] *also* of the Sabbath." If the bees swarm on Sunday, and you do not use drone-traps, then stay at home during the day and take care of the swarms, and go to church in the evening, if you have the opportunity; it will not interfere with your public devotions more than two or three Sundays at most. We do not believe in being "over righteous" or pharasaical—preferring to have our life and every day actions plead for truth, justice and right.—THE EDITOR.

CORRESPONDENCE.

BEE-PASTURAGE.

Season, Sweet Clover, Chapman Honey-Plant, etc.

Written for the American Bee Journal
BY JAMES A. GREEN.

The present season in this locality has not been one to encourage the apiarist who hoped for at least an ordinarily good yield after last year's failure.

Basswood yielded reasonably well for about six days, but there is so little basswood about here now, that by itself it does not amount to much. It was in bloom from June 30 to July 12, but yielded little except between July 2 and July 8.

Previons to basswood the bees had brought in nothing except a little very poor stuff, probably honey dew. White clover yielded nothing until about July 27, when the bees began to work on it somewhat. Sweet clover also began to yield honey at about the same date, and since then there has been a very fair honey-flow. We may get quite a crop of white honey yet.

The prospect is excellent for a good fall yield from heart's-ease, of which there is a great deal.

Value of the Chapman Honey-Plant.

On July 16 the Chapman honey-plant came into bloom. I had been watching closely for the first blossom, but the bees found it before I did, and evidently appreciated it.

For some days, from two to five bees could be found almost all the while on every fresh blossom, but since sweet clover began to yield, it has been rather neglected.

Its period of bloom is evidently almost over. Only a few small heads remain to blossom. The individual flowerets yield honey only a short time. Judging from my slight experience with it, I should say that its value as a honey-producing plant has been overestimated. That the bees work on it freely does not prove that it is valuable. I could find more bees on motherwort and catnip, on the same area of ground that it occupied. In a more favorable season it might show to better advantage. I tried the experiment of tying paper over some of the heads, but the honey did not become visible.

These plants are growing in a rich, loamy soil. They are about five feet high. A single plant in clay soil did not grow so large, nor bear as many blossoms. I now have young plants growing in a variety of soils in order to learn its adaptability. Nearly a fourth of the plants were killed last winter by being "heaved" out by the frost. The plant has at least one serions enemy—two, I think. The first is a light, green worm, beginning its ravages when about half an inch long, but growing to an inch and a half. This eats the substance of the immature flower-head. At one time there was a worm on nearly every head.

When this pest had been destroyed after careful search, several times repeated, a new trouble appeared. The flower-stem just below the head would be eaten half way off, causing the head to wither and die. No other place was attacked, and I was unable to discover the enemy. I do not think, though, that it was the worm that had been devouring the heads. A brown, striped worm bored into some of the stalks, but did not do much damage.

Considering these enemies to the plant, and the fact that it must be cultivated one year, during which year it yields no honey, while it is useless for anything but honey, it would seem advisable not to plant it to any extent until further careful experiment has proved its value.

I am inclined to think that we will find it more profitable to establish more apiaries, than to attempt to increase the resources of the home apiary, by planting anything that will not pay aside from the honey it yields.

I am also inclined to believe that it will never be found profitable to plant anything solely for honey, that requires cultivation or occupies land useful for other purposes. To scatter the seeds of such plants as sweet clover in waste places, and let them take care of themselves thereafter, will pay well, but beyond this, the real profits of planting for honey are apt to be exceedingly small.

Dayton, Ill., July 31, 1888.

OUR APIARY.

What and How the Bees are Doing—Sweet Clover, etc.

Written for the Western Plowman
BY C. H. DIBBERN.

The honey-flow, though long delayed, put in a very welcome appearance about July 1, and since then the bees have been working early and late, and even in the rain. Last month I was somewhat discouraged by my inability to get the bees to breed up to strong colonies, by the time for the honey harvest which I confidently expected by the middle of June; but it seems the bees knew better. At any rate they were on hand at the right time, and right busily have they improved the time. The prospect now is a cheering one for the bee-keeper, who has his "tubs right side up." The season is certainly a peculiar one for bees. All through May and June there was great scarcity of honey, the poor bees not being able to get more than was required for their urgent necessities.

On June 12 I hived a strong swarm on empty comb, and supposed of course all would be right. What was my surprise when 3 days later they swarmed out. Feeling quite certain that there must be something wrong with the hive I proceeded to open it, and was surprised to find not a drop of honey in it. They were literally on the verge of starvation. Such a thing I had never known before. I supplied a frame of honey and brood and returned the swarm, and that satisfied them.

We have now had abundant rains, the young white clover plants are growing finely and will probably furnish a good bloom all through August, so that the usual honey-dearth will not occur this year, or be of but short duration. Then, too, weeds that furnish the fall pasturage are growing everywhere, and prospects are for rather weedy cornfields, which means business for the bees. Taken altogether, we, the bees and bee-keepers are "all right."

Sweet Clover Yields Well.

My three-acre-patch of sweet clover is now in full bloom and on a pleasant day it is a sight to behold. The bees are on it from early morning till dark puts an end to their labors. Last night I watched them for full half an hour. They were coming from this clover patch in a perfect stream. By hundreds, thousands, and ten thousands, laden with the nectar of this little sweet clover field, and yet there are professional bee-keepers that say that it don't pay to plant for honey. My Chapman honey-plants are just coming into bloom. To-day they were only some six or eight of the little flowerets out on one of the balls; but the bees had already found it, as an Italian or two were constantly hovering over it.

Prevention of Swarming.

Last season I tried some experiments to prevent bees from swarming. It is well known by bee-keepers that if this could be certainly accomplished without too much care and labor, a great problem would be solved. Well, last season bees did not swarm, and nothing was determined. I tried the same experiments again this year, and must own up to an entire failure. The experiments consisted of two kinds. One was simply a box, about 6 inches deep, without top or bottom, but filled in with boards about half an inch apart, grid-iron fashion, with an entrance for the bees at the lower front end. The hive containing the bees, which is also without top or bottom, was now put on this "non-swarming bottom," and the bees compelled to march up and down the boards placed in this bottom.

The theory was that this bottom would furnish plenty of air, prevent the bees from becoming crowded, and take away their desire to swarm. Everything went well; they worked nicely, did not lay out, but swarmed on July 1.

Another plan was, to use one of my new hives, but filling every alternate comb with a board, and the other frames with narrow strips of foundation. My idea was, that a strong colony, placed on a bottom like that, would have plenty of room, could build comb at their leisure, and would naturally forget to swarm. I was pretty confident this plan would work, and to give the matter a more severe test, I prepared a second bottom and doubled up two colonies and put on that, thinking that if that stood the test, I had accomplished my object. This, too, appeared to work nicely, the bees commencing work promptly in the sections, and I was be-

ginning to feel like throwing up my hat, when, lo, on July 4 they swarmed. The single colony, prepared in the same way also swarmed on the next day, dashing all my hopes completely.

Upon examining the bottoms, I found the bees had built but little comb between the boards, and that almost entirely drone-comb. As I had expected to use these combs in dividing after the honey season was over, drone-comb was consequently not wanted. Although these experiments have proved failures, I think I have got some new ideas from them, and I will try another year.

Bees Hanging Outside.

Some people seem to think that because bees "lay out," they are about to swarm, or that they are more apt to swarm in warm weather than when it is cool. This is a mistaken notion. It is true that bees do swarm on the approach of warm weather, but it is because other conditions are then favorable, and they are then no more inclined to swarm on a warm day than a cool one.

Another popular mistake is, that bees are inclined to sting in warm weather, or because a person is sweaty. The truth is that they are much easier to handle in warm weather, and they are not nearly so cross.

Carniolan Bees.

The Carinolan bees are still at the front. They have all swarmed, and they are also all in the sections. While other bees are inclined to lay off, on account of hot weather, they seem to be all business.

Milan, Ill.

DIVISION-BOARDS.

Their Utility and Historic Use in Bee-Keeping.

Read at the Maine Convention

BY L. F. ABBOTT.

Division-boards should have a place in every well-regulated apiary. In fact, every well-managed apiary will include the division-board as a necessary adjunct to successful handling of bees. The division-board fits into a place in the handling of bees which no system of management can fill without them, hence they are a necessity.

This necessity in their use has grown out of the system by which bees are kept, an understanding of their ways and workings calling into requisition many things, as movable frames, the extractor, section-cases, honey-sections, and the various appliances which render bee-keeping profitable, and among them all, the division-board ranks as important a feature as either of the requisites named.

Introduction of Division-Boards.

Although the use of division-boards in the apiary as a factor of prominence dates back but a few years, it may be known to some of the more advanced apiarists that as long ago as 1852 a patent was taken out on division-boards by Rev. L. L. Langstroth. This was 36 years ago, but the division-board, we think, did not very generally come into use till quite recently. Mr. Langstroth's board was made as follows, and will be found described on page 376 of his book, "The Hive and Honey Bee:"

"One piece 18⅛x9⅜x⅞, each side of each end made ¼ inch beveling, for easy adjustment. One piece⅝x⅞x19⅞ nailed on the first piece, like the top-piece of the movable comb-frames. By this divider, the size of hive can be determined at will."

This reveals the use the division-board was first put to, to contract or enlarge the size of the hive. And this is an important matter when rightly considered. While there are various ways in which division-boards are useful in handling bees, perhaps the two most important advantages derived from their use is, in preparing colonies for winter, and in adapting the size of the hive to the strength of the colony in spring.

Preparing Bees for Winter.

In preparing for winter, it is known to be best to allow the bees only space according to their numbers. That may be to occupy four, five or six frames. We all know that it is easier to heat a small room in winter than a large one, and so this principle applies to the bee-hive. And, again, we do not want to depart from established rules in building hives as to size; were we to do so, we might lumber our premises with a large number of different sized bee-hives, of no use only as occasion called for wintering, and occasionally for nuclei colonies in summer.

If we use division-boards, the question of making hives to carry eight or ten frames is easily solved. It is an advantage to have some hives which will carry ten frames, as side-storing can then be practiced if one likes that way, and in working for extracted honey it is an advantage to use ten frames in the lower story, as a prolific queen will occupy that number and leave the upper story clear of brood. Then if such hives are desired to work for comb honey, and five to six frames in the brood-chamber are found sufficient, the contraction is easily made by using division-boards, or the same contraction made for wintering, and, if deemed necessary, the spaces between the walls of the hives and division-boards can be filled with some material which is non-conducting to cold, as leaves, chaff, etc.

Use of Division-Boards in Spring.

In rearing large numbers of bees early in the season, queens are induced to early breeding from two especial causes, viz: heat and a supply of proper food. A requisite of spring care is to reduce the size of the brood-nest to just as small compass as the bees can comfortably fill. Having done this in the fall previous, while the bees were more numerous, crowding them upon six frames, we will say, April may find the bees only able to cover two frames comfortably. The division-board upon each side has been the means of contracting their domicile, enabling the bees to more easily warm up their house, and the consequence is, the queen will commence laying earlier by some weeks than if the whole space of eight or ten frames had been given the colony in the fall.

Often winter and spring dwindling will be such that two frames will be adequate to the requirements of the colony. It is, then, of the highest importance that the division boards be used so that the heat may be utilized, and by that means a few bees be enabled to do in small, contracted quarters, in the way of rearing brood, what double the number could not do in three or four times the space.

Division-Boards in Surplus Chambers.

In case of extracting, division-boards are indispensable, to place over the brood-chamber and grade the number of frames as they are put in from time to time. It is a fact known by all practical bee-keepers, that bees, in order to build combs, must keep a high temperature where they are working, to keep the wax in a proper consistency to admit of being manipulated into combs. Hence, if the surplus room is much larger than the bees can occupy, because these conditions of necessary heat are waiting, comb building will often be delayed for the necessary amount of bees to engender sufficient heat. By the use of division-boards, combs or sheet of foundation can be supplied as the bees require them, and are able to occupy them.

Construction of Division-Boards.

How to properly construct division-boards is of some importance. Solid boards answer very well, but such are liable to warp and make their use not quite so handy as those that are true. Those made of thin material and the interior filled with chaff, have advantages. Whatever kind are used, it is of importance that the ends have some material of a yielding nature tacked to them, so as to allow this board slight friction to hold it when crowded into place.

Lewiston Maine.

SWARMING.

Do Bees Select a Habitation before Swarming?

Written for the American Bee Journal

BY J. F. LATHAM.

Although the above caption is destitute of originality, the question is a much mooted one, judging from the correspondence, *pro* and *con*, that has appeared in the bee-periodicals during my acquaintance with the subject. As I have been much interested in the diversity of opinion by those who have given their testimony with reference to bees "seeking a home before swarming," I feel prompted to add my mite to the general fund of observation and experience.

Eight years ago I had a powerful colony of black bees in a box-hive. The colony had wintered excellently, and as the season was favorable, by the middle

of June they began to "hang out" in large masses, which the knowing ones admonished me to be a *sure* indication that I might expect a swarm from the colony at any time.

As I had but three colonies at that time, I watched them closely for about three weeks. The morning of July 8, 1880, was cloudy with a heavy fog, and as I could not work at haying, I took my ax and went to repair some fence about a hundred rods from the apiary. Being busy with the fence, the thought of bees had deserted my mind, until Old Sol from a rent in the clouds, warned me of my forgetfulness. It may be truthfully imagined that I took a bee-line for the apiary, double-quick and—more.

On my arrival, I found my long-looked-for swarm clinging to the under-side of a large limb, on an old-fashioned apple-tree. The cluster was about two feet long, and must have contained at least ten quarts of bees—a black, seething mass, presenting to a novice of my experience, a serious job of hiving, with the experience of the hiving of but one swarm to "fall back on."

After "fixing up" as per instructions, viz: pants tucked into my boot-legs, thick coat on and buttoned up, thick woolen mittens on my hands and a couple of yards of musquito-netting enveloping my head, I tackled the swarm with brush and basket. A couple of swoops with the brush landed about ⅔ of the bees in the basket; the remainder went back to their hive.

After emptying my captives on a sheet in front of the hive that I had prepared for them, and getting them started in, I went into the house to "unharness," and cool off. In a short time I returned to the yard, to note the success of my efforts, and while I stood complacently observing laggards disappear as they entered the hive—*presto!* out they all came with a rush, some returning to the old hive, while the rest, after circling in the air awhile, clustered on a high limb.

I took them down on the limb and put them into the hive again; but they would not stay. On coming out, they circled around a few minutes, as if to marshal their forces, and took a bee-line for the woods, some ten rods distant. After following the rovers twenty rods or more, and marking their course, I concluded to give up the pursuit and postpone the concluding act of the drama to a more favorable opportunity, deciding that the weather was extremely hot, and that two quarts of bees were not worth further effort.

On the third day after leaving the swarms, I took the line where I left it, and after following the directions a short distance, I found my absconders passing in and out of a knot-hole in the trunk of a decaying hemlock, 25 feet from the ground, not more than 40 rods from the apiary.

On reviewing the course afterwards, I was satisfied that the swarm went in a direct line from where they were clustered when I attempted to hive them, to the tree in which I found them, impressing me very strongly in the belief that they had selected a home in that same tree prior to leaving the maternal domicile. Had I kept the swarm in view, from the time they left the bee-yard until they reached their abiding-place, the proof of pre-emption—a "fore-thought"—would have been very conclusive.

Cumberland, Maine.

SOPHISTICATION.

The History and Results of the Adulteration of Honey.

Written for the American Bee Journal

BY CHARLES DADANT.

The first intimation of adulterated honey came to me about 20 years ago, when, after sending six or seven barrels of extracted honey to Mr. Perrine, a dealer of Chicago, at 17 cents per pound, I saw at a grocery in Hamilton, one or two dozen small glasses containing liquid honey, sent by the same firm, at 16 cents per pound. This adulterating business was a paying one, the glucose added being sold at 16 cents, with a profit of about 11 cents per pound.

After having made this discovery, I hastened to write in the bee-papers, and to put on our labels, that the best proof of purity for honey was its granulating. Of course this statement was fought by the adulterators, who affirmed that it was just the reverse. But now this truth is accepted by all the consumers who buy our honey; so it would be a hard task for the adulterators to sell their stuff around us. Had all the bee-keepers insisted on selling their honey granulated, as we did, the adulteration would be altogether a thing of the past.

Nine or ten years later, while offering our extracted honey to some dealers in St. Louis, I was shown comb honey in small glass-jars, filled with liquid glucose, sold by Messrs. Thurber & Co., of New York, cheaper than I asked for my extracted. I bought one of these bottles and exhibited it at a meeting of bee-keepers held at Burlington. On my request, a committee composed of Messrs. Thomas G. Newman, Rev. O. Clute, and myself was appointed, with the mission of sending to Congress a petition against adulteration.

I took the affair in hand, and sent to Washington the petition signed by more than 30,000 names. But all my trouble was for nothing, for the petition, although well backed, was sent to a committee which never reported on it; our "honorables" having no time to spare for the health and the interest of the people.

It was at about the same time that Mr. A. I. Root invented his comb foundation machine. The announcement of this new step in bee-culture gave to many people the idea that, to produce comb, we could dispense altogether with bees; especially when it was hinted that paraffine could be used instead of wax. Yet paraffine was soon discarded by those who tried it, not only because the bees objected to it, but on account of its lower melting point, for its smallest adjunction increasing the ductility of the wax, the comb dropped in a mess to the bottom of the hives.

Yet those who consider nearly all men as rascals, continued to speak about this business of using paraffine, and soon got the idea that bee-keepers had found the means of making comb honey entirely free from bee-mediation. Such a statement was so absurd that it would have collapsed of itself, had not a professor of chemistry, Mr. H. W. Wiley, taken it under his own responsibility, by writing the following sentence in the *Popular Science Monthly* for June, 1881:

"In commercial honey, which is entirely free from bee-mediation, the comb is made of paraffine, and filled with pure glucose by appropriate machinery."

These fallacious ideas spread like fire in the whole country, not only on account of the large number of comb-foundation machines bought by bee-keepers, but especially because the statement was backed by a professor of sciences. The *British Bee Journal* for March 8, 1888, speaking of the Wiley lie says: "Naturally, subjects coming from a *professor* would be considered facts;" and it is for this reason that a man who fills the high office of professorship, ought to be careful not to publish scientific jokes, like clowns in front of the tents of the Barnums; especially when their jokes accuse of fraud a large class of citizens. Such a slander deprives its author not only of the honor attached to a good name, but of all the confidence indispensable to pupils towards their professor; inspiring doubts as to the reliability of his teachings and experiments.

But this joke did not suffice for Mr. Wiley; angry at seeing bee-keepers "handling him without gloves," he published a report, to prove that nearly all the honey put upon the market was adulterated. Of course this *pretended analysis* continued to injure the trade of bee-keepers, by increasing the suspicion of buyers; the sale of honey became more difficult, and its price lowered.

But a large number of bee-keepers *were not duped by the chemist of the Government;* for he had gone too far; accusing of adulteration several men who were above suspicion.

To my mind, either Mr. Wiley is a poor chemist, or he continued his slander. He says that he desires to fight adulteration in the interest of bee-keepers. Then he acted as the bear of the fable, that used a big stone and broke the head of his friend to kill a fly resting on his nose while he was sleeping. The bee-business would have been more prosperous had not Mr. Wiley busied himself about it.

I think that we were among the ones who could best see to what extent the Wiley slander took root in the minds of the people at large; for after showing to visitors the shops in which comb foundation is manufactured, we have often been asked for the privilege of seeing how we put glucose in the combs!

As soon as Mr. Wiley saw his lie reproduced by other papers, his strict duty was to write to the *Popular Science*

Monthly, and to the other papers, that he was regretful of the consequences of his low joke. But he seems to be void of the sense of right to make such an apology. His haughty language shows that he thinks himself far above all of us bee-keepers, since he finds nothing but insults in answer to the reprobations of those whom he has slandered. I doubt whether he could find a gentleman in the whole United States who would dare to excuse him.

It is perhaps necessary to add for the instruction of the professor, that when extracted honey is worth from 4 to 8 cents, adulteration is not possible, for it does not pay. We find the proof of it in the closing out of most of the manufacturers of glucose, and in the failing of Hoge, who had gone to England, where his adulterating business was so ruinous that he left about *two mills to the dollar* to be divided among his creditors!

As to the adulteration of comb honey, not only its manufacture is impossible, but bees cannot be induced to put glucose into the combs if there is a drop of honey in the fields; and the rearing of brood when bees are fed during a scarcity, employs too much food to leave a profit. Therefore, we bee-keepers beg the *illustrious* (?) chemist to let our business alone, for he has already injured it too much.

Hamilton, Ills.

ROBBING.

When once started, It is very Difficult to Control.

Written for the Southern Cultivator

BY J. M. JENKINS.

When the honey-flow is over, and there is very little to be gathered, there is danger of one colony of bees robbing another. If, in an unguarded moment, a pilfering robber is allowed to enter a hive and escape with a load to its own hive, the bees there will be quick to detect it, and the robber will go back with a dozen excited bees determined to have some of that honey or *die*, and if the entrance is not strongly guarded they will be apt to get it.

Then a still larger crowd comes next time; the excitement runs high; battle ensues, and bees of other hives are drawn into the fuss, and the long and short of it is, they make a "run" on the unfortunate colony and clean it up in a few *minutes*. Like a lion that has tasted blood, their fury is aroused and they are ready for other victims, and woe unto the colony that is unable to withstand the first assault.

To guard against such disastrous proceedings, we must be particular in opening hives during a dearth of honey-flow, and not let robbing *commence*. We must see that there are no cracks whereby a prowling robber-bee may sneak in to get the coveted treasure. Then keep the entrance contracted to correspond with the strength of the colony, so that they may be able to guard it. The man that has one real good case of wholesale robbing on his hands, will never forget it; and for the time being, at least, he will wish he never saw a bee.

Wetumpka, Ala.

RACES OF BEES.

Different Varieties of Bees and the Plants they Prefer.

Written for the American Bee Journal

BY C. A. BUNCH.

Quite likely a great many bee-keepers have noticed that certain kinds of bees prefer some kind of flowers, while other races of bees work on different kinds of bloom at the same time, and as a general thing brown or German bees work on weeds more than the Italians do. I have all Italian queens, except one which is a Syrian queen; some of those queens are pure Italian, and some were mated with black drones.

One Italian queen I have reason to believe was mated with a Syrian drone, on account of the different markings on the abdomen of the workers, and the great number of queen-cells that they will build; also their different disposition. This queen was reared in 1886, and last year through the month of August its colony of bees gathered about 15 lbs. of comb honey from the common blue-thistle (this is not a large amount of honey, as we had a drouth at that time) and was capped a pale white, but the honey was quite white.

The cross between the black and Italian races were hauling in and sealing the yellow (or amber) honey, the cappings of which were so much different when the sections were mixed with the sections from the Syrio-Italian colony; they could very readily be picked out, though they were not built down so nicely at the bottom, there being more space between the bottom of the sections and the bottom of the comb. I noticed this more on account of the dark bees having a reputation for capping their honey whiter than the yellow bees, but it was the reverse this time.

The dark hybrids and black bees seem to work well on fall flowers, such as asters, Spanish-needle, smart-weed, and other fall flowers. After the thistle was out of bloom, there was but little difference in the looks of the honey.

There is always lots of timberland being cleared around here, as this was a heavily timbered country, and these clearings are mostly covered with thistle, besides lots of swamp land with fall flowers, and of course the bees have their choice.

Now, as I have had the German or black bees, the Italians in their purity, and also the Syrian bees, and watched them closely as to disposition, honey-gathering and comb-building qualities, I much prefer the best strains of Italians. The bees that are my choice are, first, bees that are gentle; second, bees that are industrious and pay well in dollars and cents for their keeping; and third, bees that are yellow and three-banded, for beauty, as I am a great lover of the beautiful.

La Paz, Ind.

FOUL BROOD.

What is the Cause of that Dreaded Disease?

Written for the American Bee Journal

BY O. B. HUNTINGTON.

In a monthly bee-paper before me it is stated that "foul brood never starts in an apiary unless there has already been some of it in the vicinity," etc. It further states that foul brood cannot "originate itself;" but says that it *is not* the result of certain conditions; and any of us can state that it "is not" the result of many other conditions, and no person would be any wiser as to the real cause of foul brood.

I have not found any positive statement, by any one, as to the cause of foul brood. I have had very little experience with the disease, but so far as I have observed, in cases where the body of the brood is in full form, the inward parts are consumed with the disease, and the sharp end of the brood is presented, which, to me, accounts for the puncture in the cap of the cell.

I would like to know if any other man has made similar observations on the subject; and if he has, may we not calculate that foul brood is caused by certain conditions similar to what physicians would call "a wrong presentation?"

One writer assumes that foul brood does not exist except by contact with affected parts. How does it start? or how did the first in a certain locality originate? I presume that no one will attempt to say that the disease is co-equal with the bee, or that it does not break out in localities far removed from any possibility of contact.

Then what is the *cause* of foul brood? Now if any man knows, I hope he will tell, so that we can all hear it, and oblige many, as well as the writer.

Springville, Utah.

QUEENLESSNESS.

Removing Queens from Colonies to Save Honey.

Written for the American Bee Journal

BY FRIEDEMANN GREINER.

A. W. Stith may flatter himself in the idea of giving us something new in his article on page 504—depriving vigorous colonies of their queens to "save honey." I would say that this old practice has been known to us for years; was advised over 15 years ago by Baron von Berlepsh, and many others; it also formed a part of the discussions at the German bee keepers' convention at Strassburg, in 1875. Such men as Dzierzon, Hilbert and Pollmann, there and then gave us the results of their experience, and their views on the subject, the substance of which was this:

"Removing queens for the purpose of increasing the honey crop is a risky and dangerous business, too much depending upon the season." Dzierzon

advises as a better method, the *caging* of the queen and leaving her near the *center* of the hive.

Hannemann, of Brazil, South America, ten years ago wrote in the *Bienen-Zeitung*, of his giant colonies, which he formed out of a number of young swarms, often having from 50 to 70 pounds of bees working in peace and harmony *in one box*, all queens being caged in the so-called Hanuemann's queen-cages (which were so constructed as to allow the bees free access to their queen, but prohibited the latter one escaping). Under such treatment brood could not be reared, and in consequence a great deal of honey was stored.

Hannemann's enthusiasm over this, his novel way of managing bees, was great, and much talked about at the time; he reaped large quantities of honey when others did not. (I have not given the details of H's management of bees, simply because I think we have better methods of securing the same object.)

When one makes the production of extracted honey a business, I have found it practicable and successful, in most seasons, to deprive, or, better, cage the queens for a *short* period; but when comb honey is the object, the practice is not to be commended, as it will surely result in failure.

Naples, N. Y.

EASTERN BEES.

The Foreign Bees and their Importation.

Written for the American Agriculturist

BY SAMUEL CUSHMAN.

Since the first importation of Italian queens into Austria, England and America, bee-keepers have shown much energy in their search for something still better. Long voyages have been taken to various parts of Europe, Asia and Africa, and the forests of Java and Ceylon, the home of the *Apis Dorsata*, have been visited in search of this famous race. A few years after the importation of Italians it was learned in Europe that the bees of the Island of Cyprus were a superior yellow race, and they were soon procured by leading European bee-keepers, who were loud in their praises. Several Americans procured some of this stock from these bee-keepers, and in 1880, when there was such an interest in them, and when news came of the good qualities of the Syrians, D. A. Jones of Canada started out in search of the new varieties and returned with one hundered colonies of Cyprian and Syrian bees.

Others have visited Cyprus, Syria and Egypt for queens, and for a few years an American (Frank Benton) has made this his business, and now has queen-rearing apiaries in Syria, Cyprus and Carniola, from which he supplies queens to bee kepers in all parts of the world. They are packed to take long voyages in safety at the proper season.

We are now able, for a moderate sum, not only to obtain queens from Italy, but Cyprians from the Island of Cyprus in the Mediterranean, Syrians from Northern Syria, Palestines from the Holy Land, Egyptians from Egypt, and Carniolans from the mountains of Carniola, a small district in Southwestern Austria. Each race or variety has certain qualities not found in the others, and from this list the modern bee-keeper may select his breeding stock and combine whatever qualities he may require in his location, or for any special branch of the pursuit he may desire to follow.

For instance, one who runs his colonies entirely for extracted honey, to do the best needs different stock from one who makes a specialty of choice comb honey only; while one who makes a business of rearing queens for sale, finds certain varieties far superior for this work. Others who do not work for honey but simply for increase may do best with still another strain; and again, the one who combines these branches wants the best all-purpose bee.

Certain varieties do the best in the South; others are most desirable in the North. In some locations, very early and heavy honey-flows are the main reliance; in others, the fall crop furnishes the only surplus: while in another place a moderate flow extends through the whole season. Therefore, each locality must be studied, not only to learn the special management required, but the race or strain of bees most adapted to it. My own bees, in four different locations, require different management in each apiary. A few miles may make a great difference. When there is a failure of the crop in one apiary, another differently situated may have a full yield.

Pawtucket, R. I.

COLORADO.

How to Cure the Foul Brood without the Aid of Fire.

Written for the Colorado Farmer

BY V. DEVINNEY.

I have taken some trouble to investigate the extent of country over which this disease has spread, and I find that it includes the country bounded on the north by Clear Creek, Denver, and the Platte River on the east, Bear creek on the south, and the mountains on the west. I have reports of several cases near Morrison. Indeed cases may be found beyond the country described but I have not had the means to ascertain.

One of my worst cases, I transfered to a clean new hive, and buried the foul comb instead of the bees, and sprinkled the new made comb, bees and brood with salicylic acid, according to the formula. and now they are healthy and prosperous with sound brood. The treatment given them was of a surgical nature. We cut away with a big-bladed, knife all of the worst diseased brood, leaving some which seemed all right, but had occasional cells of foul brood in it.

The good brood as we anticipated hatched out, but the occasional cells of bad brood did not—and "that was where we missed it;" for these bad cells caused new brood adjacent to them to become diseased, and thus nothing was gained by not removing the slightly-affected, as well as the wholly-affected brood. I desire to say that my thirty colonies which in spring were sick "nigh unto death," are doing well now, gathering honey in abundance, and have plenty of sound brood.

I will close this matter by describing my present method of treating foul brood. I disinfect my old hives and frames thus; I place them in the warm midday sunlight, long enough to soften the coating of wax on them; then I remove it thoroughly with a knife; when cleaned thus, I place upon the ground a small wisp of straw or hay, not to exceed two ounces, upon which I place a small "pinch" of sulphur, upheld by a cotton rag. I ignite this with a match. When in a full blaze I invert the hive over it. When I fumigate the frames I support them in a barrel or box by a movable slat. When properly treated thus, they are as good as new. I remove all the brood from a diseased hive and transfer to a new or disinfected hive. But as I transfer each frame, I sprinkle it, bees and all, with a solution of salicylic acid, one ounce dissolved in three pints of hot water and applied with a whisk broom. I disintect old hives, after scraping them clean, by igniting a small handful of straw or hay upon which is placed a half teaspoonful of sulphur; then I invert the hive over it. I fumigate the frames in a special box in like manner.

The colonies which I have treated thus, are doing well, gathering an abundance of honey, and the brood seems sound and good.

Denver, Colo.

Convention Notices.

☞ The Darke County Bee-Keepers' Society will hold a basket meeting on the Greenville Fair Grounds, on Friday, Sept. 7, 1888..

J. A. ROE, *Sec.*

☞ The fall meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held on Aug. 21, 1888, at Leaf River, Ills. D. A. FULLER, *Sec.*

☞ The North American Bee-Keepers' Society will meet at Columbus, O., on Wednesday, October 3, 1888, and continue as usual in session for three days.

W. Z. HUTCHINSON, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold their fourth annual picnic at the Floral Trout Ponds, in Cortland, N. Y., on August 30, 1888. Let all bee-keepers and their friends come and have a good time.

W. H. BEACH, *Sec.*

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Aug. 21.—N. W. Ills. & S. W Wis., at Leaf River Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

Oct. 3-5.—North American, at Columbus, O.
W. Z. Hutchinson, Sec., Flint, Mich.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Good Season in Texas.—A. C. Aten, Round Rock, Tex., on Aug. 4, 1888, says:

The report of my honey crop up to the present time is as follows: From a little less than 100 colonies worked for extracted honey, I have taken 7,000 pounds, with at least 2,000 pounds more surplus now in the hives. Bees are now working on cotton and morning-glory, gathering a surplus slowly, with broom-weed, rich-weed, etc., still to bloom in a few weeks. Horse-mint produced a great deal of honey this year. On the whole, this will be a pretty good season here.

The Wild Basil.—Mrs. J. B. Curiee, of Tamaroa, Ills., on July 27, 1888, writes:

I enclose a specimen of a bee-plant; it is perennial, and about 2 feet high. It has white blossoms with purple edges. It grows in the prairie fields, and is covered with bees from daylight until sundown. Our bees pass over a field of buckwheat in bloom in order to go to this plant. It roars like a swarm of bees when I walk among the plants. I do not know the name of the plant. My Chapman honey-plant has been in bloom for a month, and the bees are working on it finely.

[This is *Pycnanthemum linifolium*, one of the wild Basils, but having much less fragrance than its congeners. It has often been noted as a good honey-plant.—T. J. BURRILL.]

Uniting Colonies and Italianizing.—R. A. Williams, Poultney, Vt., on Aug. 6, 1888, writes:

I commenced the past winter with 8 colonies of bees, mostly in Langstroth hives. The tops of the hives were filled with quilts or bran sacks. They were wintered on the summer stands, which are protected, for the most part, from the north and west winds. All of my colonies wintered in fair condition, and I have increased them, by natural swarming, to 16 colonies, besides one swarm that absconded. There has been a large amount of white clover here, but it did not seem to contain much honey. About all of my surplus honey will be obtained from 4 or 5 colonies—from 20 to 60 pounds each. The rest of the bees have ample stores for winter, save a few late or second swarms.

My bees are mostly blacks, with some that are ¼ or ⅛ Italians. I have wondered if it were best to Italianize my bees; but I know that it would be a hard matter to keep them pure (some in this vicinity having tried it, but failed, as they would mix with the blacks, which are on all sides, from ¾ to 2 and 3 miles away).

I would like advice in regard to the following: I usually take up at the close of the honey season, all that I think have not honey enough to winter on, sprinkle with peppermint water, and put the bees in with a strong colony, with plenty of stores, taking the honey where there is not more than 14 to 16 pounds. I prefer to do this rather than feed the bees; and besides, I am in need of the honey, and care less for the number of colonies. Is my way right? Can you suggest a better way? I have kept bees for eight years, but I have learned more since I read your book—"Bees and Honey"—and have taken the AMERICAN BEE JOURNAL, than all the years previous.

[Oh, yes; it is better to unite the weak colonies before putting them into winter quarters. Your plan is good.—ED.]

Never Say Fail.—H. E. Hill, Titusville, Pa., on Aug. 4, 1888, says:

Last year was a failure in this locality for honey producers, and this season is worse. "No surplus" is my report for 70 colonies, in fair condition; while in 1886 I took from 33 colonies in the same yard, 2,000 pounds of finished comb honey, and 500 pounds of extracted, after transferring the bees from boxes during fruit-bloom of that year. Two entire failures in succession are discouraging; but "never say fail!"

Ionia Co., Mich., Convention.—Harm Smith, of Ionia, Mich., Secretary of the Association, sends the following report:

The Ionia County Bee-Keepers' Association met in convention at the City Hall in Ionia, Mich., on Aug. 3, 1888, 17 members answering to roll call, 8 being new members. The following statistics will indicate the condition of the honey yield:

Number of colonies reported, 878; increase since May 1, 1888, 40; losses since May 1, 38; sold since May 1, 12; honey taken, pounds of extracted, 70; honey taken, pounds of comb, 761. The present condition of the brood-nest is ¾ filled. From reports abroad, the same condition of affairs exists throughout the northern States. There is very little, if any, surplus of clover or basswood honey taken anywhere. The failure is attributed to cold, and especially cool nights. Colonies are generally reported strong, and the fraternity are hopeful of a good fall yield. The convention adjourned to the spring meeting, when called by the executive board.

Alsike Clover Yielded Well.—Thos. Stokes, Minesing, Ont., on Aug. 3, 1888, writes:

As I sit and listen to the joyful patter of the soft rain on the roof to-night, I feel a good deal more buoyant as regards the future welfare of the bees. After seven steady weeks of dry weather—with the exception of a few light showers, none of which wet the ground over an inch deep—this is a glorious day, shower after shower, until the ground is pretty thoroughly soaked. Alsike clover has yielded very well here during meadow blossom; in fact, my best colony produced 50 pounds of extracted honey in six days from it. During those days it was warm, and the sun was partially hid by summer clouds, with little wind. The bees coming over from the back of the hive dropped down at the entrance like pouring peas out of a pail. This clover is sown more every year by farmers, simply for hay and pasture, as no seed is raised, and those that had it in this dry season have cut a far larger tonnage than the others; so it will still be in vogue among them. So far the bees have averaged 50 pounds per colony of extracted honey, with good prospects ahead.

Culver's Physic.—C. H. Dibbern, of Milan, Ills., on July 30, 1888, writes:

I send you a specimen of a plant which I find growing wild, that is new to me. It is just now coming into bloom, and seems to be very rich in honey. I counted six bees on one head, and quite a number had two and three, and they seem to stay quite awhile, like they do on the Chapman honey-plant. I shall cultivate some of this another year, and would like to know its name.

[The plant is *Leptandra Virginica*, or Culver's physic.—T. J. BURRILL.]

No Swarms and No Honey.—O. R. Goodno, Carson City, Mich., on Aug. 6, 1888, writes:

It continues as before—no swarms from the 100 old colonies, and as yet I have seen surplus honey in but two sections, and a table-spoon would hold all they contain. One week ago I had 79 colonies so full of bees that they were hanging on the outside of the hives. Some have enough to winter, and others not enough to last them 30 days. There are not enough drones to mate the queens that fly. Many light colonies, when disturbed, will "ball" the queen, and kill her. Bees are working on buckwheat for two or three hours in the morning; they have access to nearly 100 acres. In the afternoon they spend their time in petty quarreling. The air is full of one bee trying to carry off another, with no disposition to sting each other, but from the alighting-board one will catch another by the leg, and they go sailing through the air, sometimes becoming detached, and both return to the hive.

Government of Bees.—John W. Pigg, Riverside, Iowa, writes as follows:

The desire of man to govern bees, and obtain knowledge of their habits, etc., was the incentive to efforts which, by the Rev. L. L. Langstroth, resulted in the invention of the movable comb-frame. With the use of this invention began the control of bees, aided much by later inventions, especially in the use of the extractor and comb foundation.

Contemporary with the advancement in the control of bees, there have been increasing opportunities to observe their habits and disinclinations; but apiarists, except a few, have seemingly been satisfied in their governing, and have not recognized that it is a discordant government, as opposed to what is natural or self-government, with the adaptation of hives to certain habits and tendencies of bees.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ¼ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Conventions.—The time for holding Bee-Keepers' Conventions will soon be here, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—26c.
HILDRETH BROS.,
May 21. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.
June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-pound sections, 14c. No new in market, and old is not selling.
BEESWAX.—22@23c. Supply limited.
July 24. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—We get 15c. per lb. in a small way for best comb, and less for off grades. Extracted, best white, 7@8c. None of the new crop received yet, but there is more than sufficient of the old crop for the light demand.
BEESWAX.—22c. R. A. BURNETT,
Jun. 30. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@65c. per gallon.
BEESWAX—Dull at 23½@24c.
Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—None here, and market in good condition for new crop. There is some demand for the extracted.
BEESWAX.—22c.
Aug. 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c.—Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Aug. 8. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 14@16c.; 2-lbs., 13@14c.; 3-lbs., 12@13c. Extracted, white in kegs and ½-barrels, 8@8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 6@6½c. Demand good for extracted, but dull for comb.
BEESWAX.—22@25c.
July 2. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@23c.
Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: 1-lb. sections, not glassed, at 18c.; 2-lb. sections and dark ones, also extracted, is not in demand. New honey is arriving freely, with a fair demand. This part of the State is favored with half a crop.
BEESWAX.—None in market.
July 20. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 14@18c.; 2-lb. sections, 12@13c. New Florida extracted, 8@9c. Sales are very dull.
BEESWAX.—25 cts. per lb.
July 5. BLAKE & KIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Choice new extracted, 5 to 5½c.; amber to light amber, 4½@4¾c. Choice comb in 1-lb. sections, 13@14c.; 2-lbs., 12@13c. Arrivals are small, as apiarists are holding back. Prices are considered high.
BEESWAX.—18@22c.
Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 15c.; 1-lb., white, glassed, 14c.; dark, 1-lb., 2c. less. California, 2-lbs., comb, white, 13c. Extracted, 7c. Considerable old honey is in this market. No new yet in. Sales are very slow.
BEESWAX.—None on the market.
June 9. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, dark, 4@4½c.; bright, 5@5½c. in cans, 7@8c. Comb, white clover in prime condition, 13½@15c.; dark, 11½@12½ cts.—Market quiet, demand good and receipts light.
BEESWAX.—22c. for prime.
Aug. 10. D. G. TUTT & CO., Commercial St.

Advertisements.

SELECTED Tested Breeding Queens, only $1.00 by return mail; 2-frame Nuclei with same Queens, $2.50 each—two for $4.00. Also **Hives** for sale cheap. Address at once,
S. F. REED,
33A2t NORTH DORCHESTER, N. H.
Mention the American Bee Journal.

ITALIAN BEES and QUEENS.

ONE Untested Queen, 75 cts.; three for $2; for more than three, 60 cts each. **Tested Queens, $1.25 each. H. G. FRAME.**
33D2t NORTH MANCHESTER, IND.
Mention the American Bee Journal.

PURE Untested Italian Queen....$1.00
Tested Queen, offspring pure Italian. 2.00
Select Tested Italian Queen—extra fine.. 2.50
Hybrid breeding Italian Queen 50
Sent by return mail. Direct to,
E. L. BRIGGS,
33D2t WILTON JUNCTION, IOWA.

FRIEND, SEE HERE!

IF You want BEES, then it is your privilege to answer this advertisement at once. I can give you a magnificent bargain. Must sell at once—Italians, Hybrids and Blacks. All in Langstroth hives in good condition. Will guarantee satisfaction.
A. F. UNTERKIRCHER,
33A1t MANCHESTER, MICH.
Mention the American Bee Journal.

LOOK HERE!

FOR Sale Cheap—Bee-Hives, Shipping-Crates and Brood-Frames; Comb Foundation, Planer-Sawed V-Grooved Sections a specialty. Price-List free. J. M. KINZIE & CO.,
13Atf Rochester, Oakland Co., Mich.

HONEY

WE are now ready to receive shipments of HONEY, and would be pleased to open correspondence. Liberal advances made on consignments. Let us hear from you, as we can render prompt returns at the top market values. Reference on file with the American Bee Journal. **S. T. FISH & CO.,**
33A20t 189 So. Water St., CHICAGO, ILL.
Mention the American Bee Journal.

HANDSOME

ONE-PIECE SECTIONS.

WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

A POSITIVE FACT:

QUEENS by return mail, from the old and reliable
KNICKERBOCKER BEE-FARM.
(Established 1880.)
—Warranted, $1.00; Tested, $2.00.—
Special rates on large orders. Circular free.
GEO. H. KNICKERBOCKER, (Box 41),
31D3t PINE PLAINS, Duchess Co., N. Y.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

FEEDING-BACK.

THERE was probably never before gathered together so much reliable information upon the above subject as is to be found in

THE BEE-KEEPER'S REVIEW

for July. If you have, or expect to have, unfinished sections, read this Number. If you have failed to make a success of "feeding-back," its perusal may show you where you made your mistake. The August issue will be a "Fair Number."
Price of the REVIEW, 50 cents a year. Samples free. Back Numbers can be furnished.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.
Address, **W. Z. HUTCHINSON,**
29Dtf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

GLASS PAILS

FOR HONEY.

THESE Pails are made of the best quality of clear flint glass, with a bail and a metal top and cover. When filled with honey, the attractive appearance of these pails cannot be equaled by any other style of package. They can be used for household purposes by consumers, after the honey is removed, or they can be returned to and re-filled by the apiarist.
Prices are as follows:

To hold 1 pound of honey, per dozen, ... **$1.60**
" 2 pounds " " **2.00**
" 3 " " " **2.50**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,....CHICAGO, ILLS
Mention the American Bee Journal.

Carniolan Queens a Specialty.

ALL Queens bred from imported mothers. Gentlest Bees known. No smoke needed. They cannot be surpassed as honey-gatherers. Never saw foul brood. Prices:

One Untested Queen	$1.00.
6 " Queens.....	5.50.
12 " "	10.00.
1 Tested Queen.....	2.00.
1 Select and Tested Queen.....	3.00.

Ninety per cent. will prove to be purely mated. Safe arrival guaranteed. All orders booked and filled in rotation. Address,
ANDREWS & LOCKHART,
31D3t PATTEN'S MILLS, Wash. Co., N. Y.
Mention the American Bee Journal.

Queen Shipping-Cages.

WE have a lot of Queen-Cages, like the one illustrated, not provisioned, which we will sell **3 for a dime,** by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Aug. 22, 1888. No. 34.

EDITORIAL BUZZINGS.

Oh! Consistency! great law
That holds vast nature's boundless realm
Fast in thy clutches. Matchless boon!
As man goes from thy law to artifice,
Thou wilt stand immovable, the wrong disclose,
Until finding his mistake, he turns again
Into God's eternal law. T. S.

September is a busy month for bee-keepers, farmers and others. The Fairs keep them very busy showing their products. We hope there will be enough honey produced to make a good exhibit, if no more. The crop is very scarce generally.

The Weather in Europe, says the *L'Apiculteur*, of Paris, during July was very wet and cold. The bees have kept their colonies strong, but have gathered only a little honey. The so-called "foul brood" is troublesome there also, and in France they are passing laws to prevent the contagion spreading.

To Go by Default.—The *Michigan Farmer* of last week intends the following paragraph for a hint to stir up the bee-keepers to a sense of their duty in joining the Union, but the last line needs comment:

Out of a total of 300,000 bee-keepers in the United States, less than 300 have become members of the Bee-Keepers' Union. Unless more funds are forthcoming, the Clark case at Arkadelphia, which has already cost the Union $125, and is to come up for a new trial, will have to go by default.

No! No! *It could not* go by default. It was tried, and victory won by the Union! Will the *Michigan Farmer* please make a note of that fact. It is true that every one of the 300,000 bee-keepers ought to be members of the Union, and then it would be a power in the land—a mountain of strength which would protect the pursuit everywhere.

Another "Pleasantry."—Mr. P. M. Puhl, of Maumee, O., thus describes another traveling *fraud*, who is perpetrating another *wily* peddler's "pleasantry"—charging that the editor of the AMERICAN BEE JOURNAL is making, by a copy-righted receipt, so-called liquid honey, and that he is commissioned to sell the same all through the country. He avers that we are making comb honey, and fill the combs with the fraudulent stuff for which he offers to sell the receipt for 25 cents. Now let us present the letter of friend Puhl:

It is getting to be unpopular in this locality to keep bees. By the fruit growers such are despised more than saloon-keepers, and the great majority of people believe that you, Mr. Editor, adulterate the honey. Even while I am writing this a peddler comes in selling a receipt for making genuine honey, and telling of you, Mr. Newman, using it to make comb honey. Now please do not get as mad as I did, for I took the fellow by the collar and out he went. I closed my business and followed him around town, and whenever he offered to sell anything, I said this man is a liar and a fraud. I succeeded in driving him out of town without making a sale; before he came here he was in a town across the river, and sold a good many receipts at 25 cents each. Now he has gone to Toledo. From the mischief he has done here alone, I shall be obliged to fight constantly, to say nothing about the fruit growers, and we have several of the bull-headed kind here, who will not read or try to find where the trouble is, or let any one else show them. In the the face of this, does it not look a little discouraging, with no honey to sweeten one's sugar-tooth with? I told this scouudrel of Mr. Root's offer. I offered to go to the telegraph office and telegraph to you and Mr. Root to prove to him that he was wrong. It was all to no purpose. I got the last AMERICAN BEE JOURNAL and read to him Wiley's explanation; and he laughed at it! Now how can bee-keepers manage to show that they are not humbugs and malicious destroyers of other people's fruit? The honey receipt is copy-righted, at least so marked.

That scoundrel ought to be sent to the State's Prison. We have devoted a lifetime to the exposure of fraud, adulteration, etc., and point to our record with pride, because of its spotlessness. Now for such a villain to try to *rob* us of it, in this mean way, is diabolical! Among those who know us, he could not do us any harm, but he operates among those unacquainted with bee-keeping, and hence is the more damaging to the producers of pure honey.

Takes it Back.—On page 500 we referred to an item in the *Farm, Field and Stockman*, which stated that the St. Louis Society of Microscopists had examined several hundreds of samples of honey, and found the majority of them adulterated. We well knew that it was not true, and said so. The *Journal of Agriculture*, which was fooled by the item it published, has investigated the matter, and this is what it says in its issue for Aug. 2, 1888:

The facts are as follows: John C. Falk, a practical druggist and active member of the St. Louis Microscopic Society, examined about a score of specimens of honey obtained from dealers in St. Louis. He found pollen in some, and detected its absence in others, but he did not discover an evidence of adulteration in any. Those without pollen appeared to be otherwise pure. He took a few specimens to a meeting of the society, and incidentally mentioned the facts recited. A reporter of a daily paper was present and heard his remarks. Some members informally examined specimens, but expressed no unfavorable opinion of them. That was all there was to it.

The next day a daily paper had an article which purported to be an account of the investigation of the subject of honey by the society. The editor of this department never saw the report, never wrote anything concerning the alleged microscopic examination of honey, but the editor of another department of the *Journal* read it, and deeming it an item in which honey producers would be interested, he reduced it to a short paragraph, handed it to the printer, and it was put in type without this editor's knowledge. But we feel very sure the writer never thought of doing injustice to honey producers. No one suspects them of adulterating honey. They are universally credited with sending pure honey to market, and whatever adulteration may occur is on the part of the city or town people for the gain there is in it.

The real facts now developed, show how imaginative a reporter may be, and further show that an expert microscopist has been unable to detect an evidence of adulteration in any one of twenty specimens of honey indiscriminately collected in St. Louis, all of which is to the credit of honey producers, and of retail dealers in St. Louis. We are gratified at so pleasant an outcome to the matter which had its origin in a grievous misstatement of facts on the part of a reporter.

The *Farm, Field and Stockman* also publishes this correction—but without comment. These sensational reporters are being found and exposed.

Just look at the *facts* in the case: A "druggist" examined a *score* of samples of honey, but *did not find any adulterated!* This he stated at a meeting of microscopists. The sensation-scribbler reported that the St. Louis Society of Microscopists examined several *hundreds* of samples, and found *the majority of them adulterated!* Could lying be more premeditated and pernicious?

To Save Losses we offer a word of caution. The crop of honey, be it ever so small, will soon be put upon the market, which is everywhere empty and ready to receive it. The caution we want to give is this: Do not sell honey to any person of whose financial standing you are not posted, unless you get cash in advance; no matter what are the promises or flattering offers. Either *know* that the party offering to buy it, is either perfectly good for ten times the amount, or pays you cash down. Last year there were several swindlers trying to get honey without paying for it. Hence this advice.

The Coming State Fair at Elmira, N. Y., Sept. 17 to 22, promises to be among the largest and best ever held in the State. Intended exhibitors shou'd bear in mind that the closing date for entries is Aug. 18, and *not get left*. Secretary Woodward informs us that all entries *mailed* on that date will be accepted, but why wait until the last day? The railroads will return all exhibits free of freight.

GLEANS OF NEWS.

Alsike and Sweet Clover.—Mr. W. Z. Hutchinson, editor of Bee-Keepers' *Review*, some time since took strong grounds against planting for honey. At that time we concluded not to say anything about it, because we felt sure he was mistaken, and that time would soon demonstrate the falsity of his position. It has now come. In the last issue of the *Review* we find the following which shows that had it not been for sweet clover, many honey crops already gathered would never have existed. The crop of honey yet to be gathgered seems to promise exceedingly good results. Tally another one for sweet clover. The *Review* says:

In our "Planting for Honey" number, some thought that we did not do justice to the raising of plants for honey; that we dressed it in too somber colors. We still think that it was shown in its true colors. Here are two little items upon the bright side, however, and we are very glad to give them:

While riding in the cars lately, we occupied a seat in company with a young physician who keeps bees in a small way in an adjoining county. In response to our doleful tale of few swarms and scarcely any honey, he regaled us with a report of hives full of honey, and swarms more numerous than desirable. After enjoying our surprise to his heart's content, he finally let it out that all these happy results came from a sixty acre field of Alsike. We must not forget, though, that he had only a few colonies; still, we think, and have always believed, that the introduction of Alsike, in large quantities, among the farmers surrounding an apiary, is an advantage to the owner of the apiary, especially where there is no basswood, provided it does not bring with it a crop of bee-keepers.

The other item is a clipping from a letter received by us, July 27, from Dr. A. B. Mason. It reads as follows: "I was 'awful 'fraid' we shouldn't have honey enough to make a display at the Fairs, but the bees are just booming, sweet clover is in all its glory, the weather is 'just the ticket,' so I guess we'll 'get there.'"

Just as we were ready to make up the "forms," the following came on a postal from our friend A. Snyder, of Coeyman's Hollow, N. Y.: "After testing sweet clover again this season, I think more of it than I ever did. Basswood was a complete failure, and had it not been for sweet clover, we Albany county bee-keepers would not have had any honey. It is such a wonderfully good honey-plant that I am saving large quantities of seed."

Minorcan Queens.—Mr. Simmins, of Rottingdean, informs us that he has received a queen from Mr. Andreu, of Minorca, and that he has successfully introduced her, and nine other queens, to their respective hives, by his method of "direct introduction." There are now in England three Minorcan queens safely introduced by three eminent bee-masters, Messrs. Abbott, Blow, and Simmins. Bee-keepers will therefore in the coming season have an opportunity of comparing the virtues of this new race with those of Carniolans and Ligurians.—*British Bee Journal.*

Humiliated, but yet Hardened.—The astute professor of chemistry at Washington, whose humiliation was caused by our persistently-administered chastisement, presumes to court the favor of the bee-keepers he has injured so long, and without the least show of pity or remorse. His *cheek*, in so doing, is astonishing—and only exhibits the characteristics of the man. The following from Mr. J. F. Dunn, of Ridgeway, Ont., concerning that unbounded cheek, is commended to his careful consideration:

I am glad that you have at last forced Prof. Wiley to attempt a defense of the damaging and cowardly statements which he made some years ago. He is now, through several periodicals devoted to apiculture, publishing what he is pleased to call an explanation of the position he then took, and a very "thin" reason for his reticence since, and throws the blame on one who cannot answer his charge, as he has passed over to the "great majority." He (the *wily* man, of course) is now trying to get the sympathy of the very men he has greatly injured, and who will take all he says with the "regulation grain of salt."

I have just finished reading a New York letter in which the following sentence occurs: "Among the wonderful productions of nature in the diamond family, is a class called 'roundbort,' or by the French, 'extreme durette.' One specimen belonging to the Tiffanys was placed on a polishing wheel a hundred days, with a wheel revolving 2,700 times a minute under a pressure of 40 pounds, and it never phased that diamond." The question has been pretty freely discussed among scientists, if there was anything in nature harder than that gem; but I think it is now definitely settled by a chemist living in Washington, who is in possession of something harder than Tiffany's jewel, namely, his CHEEK! Cheek, before which brass melts like ice, and adamant crumbles into dust.

Indiana State Fair.—The year 1888, although a campaign season, with so many and varied counter attractions, does not diminish the interest which exhibitors take in the Indiana State Fair.

An immense two story amphitheatre is approaching completion, ready for the opening, Sept. 17. The steady growth of the State Fair proves its importance as an educator in those matters which so interest and are indispensable to the most successful farming.

Frank Leslie's Sunday Magazine for September concludes George Macdonald's beautiful story, "The Elect Lady," and gives two more chapters of the new story, "Genevieve; or, The Children of Port Royal," begun in the August number. It contains also a short story by Florence B. Hallowell, entitled "A Little Flirtation," with a very excellent moral. Dr. Talmage's sermon is "Songs in the Night," and editorially he comments on "War against Newspapers," "The Power of Prayer," "Good Examples," and "The Best of Friends." The departments are well kept up, and poems and short articles all entertaining and useful. It is a good summer number.

Bees and Honey in England. The following from the last number of the *British Bee Journal*, for Aug. 2, 1888, will give our readers a good idea of the state of apiculture in England at the present time. It is very discouraging, not only in the United States and Canada, but also in Europe. But here is the matter referred to by our cotemporary:

The weather does not improve, and affairs now look very serious indeed. We hear on all sides not only of hay rotting in our fields, but of wheat, barley, and oats in little better condition. Wind-storms and pouring rains have "laid" the crops, and an almost total absence of sunshine, with a very low temperature, prevents the ear from filling, the grain from forming, and mildew has already appeared....Grass and corn crops would seem to have no better fate in store than ensilage, and farmers who devote them to this are probably the wisest of their class. In an equal degree with vegetation do our little sun-worshippers, the bees, suffer. The white clover has failed to secrete nectar, the limes are in bloom, and beginning to fail, and the bees have little or no opportunity of visiting either, if, indeed, it were of any use for them to do so.

Still, in the midst of all this discouragement, swarms have rarely been more abundant. The aim of all skilled apiarists is to obtain colonies over-flowing with bees by the arrival of the main honey-flow. When that comes, with bright, settled weather, the spreading of the brood-nest is checked by the storage of honey, and a limit is placed on the production of bees, the queen being said to be "crowded out." During the present season there has been no honey to check the fertility of the queen. Hence every cell is filled with brood, and the hives, being over-crowded (almost to suffocation) with bees, swarming follows as a necessity. In our own apiary we have instances of the departure of large swarms before even a rudimentary queen-cell has been commenced. Returning swarms to the parent hive, queen-cells having previously been cut out, would seem to be useless, since the swarm, in a few days, re-issues. Many of our colonies, over-flowing with population, have less honey than they possessed in April, and we are feeding largely both swarms and swarmed colonies.

Hold your Breath while you read the following from Prof. A. J. Cook, of Agricultural College, Mich., written for *Gleanings*, and pubished in the Aug. 15 number:

I heard years ago of the absurdity, that holding one's breath would exempt him from stings. I thought at once that it was nonsense, but put it to the test. It was one of the most satisfactory experiments that I ever tried. I think the bee appreciated the joke, for I rarely get a more painful thrust. It was like Bro. D. A. Jones' ice water. He told me the ice water would prevent all pain from a bee-sting. I said, "Produce the water." I pinched a bee, got the sting, and at once thrust my hand *into* the cold water. I do not think I was hurt worse from a bee-sting that whole season.

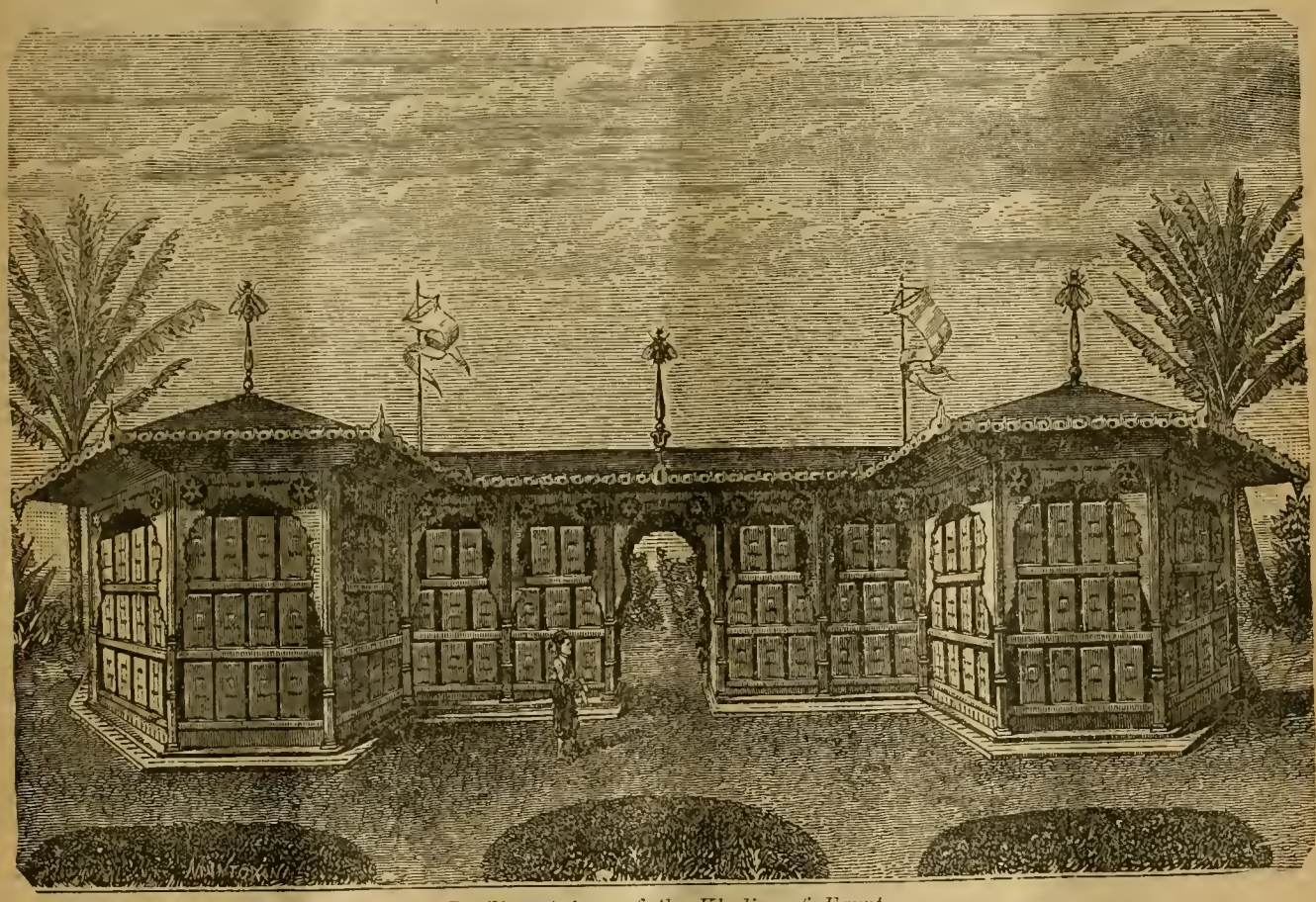
This explodes, most fully, another "scientific pleasantry" given in a recent number of *Science*, and signed by one W. L. Wilder. Surely, the so-called scientists grow *wilder* and *wilder* on every matter they attack—or they are so full of *wild* theories and scientific pleasantries that they can give *real* science no time or attention.

EGYPTIAN APIARY.

The engraving on this page represents the apiary belonging to the Khedive of Egypt. It was first published in Milan, Italy, by Sartori and De Rauschenfels, on the cover of their "Apicoltura in Italy," and is there described thus:

Pavilion apiary, for 100 colonies, designed for the Khedive of Egypt, and built under the direction of Giorgio Sipos, pupil of the establishment of Luigi Sartori.

These hives are of the German type, with three stories of frames and opening at the rear.



Pavilion Apiary of the Khedive of Egypt.

New York Honey Crop.—Capt. J. E. Hetherington, Cherry Valley, N. Y., writes thus concerning the honey crop of Central New York, on Aug. 14, 1888:

The crop of white honey in this section of the State is light, our own being about one-fifth of last season (our own last season was good, exceptionally so). We have just had a heavy rainfall, which, we think, will insure a good crop of buckwheat, or fall honey.

Fall Honey.—The indications now point to a good fall crop of honey. The weather is rainy, the atmosphere hot and damp, the growth of the fall flowers luxuriant, and if no unforseen calamity comes, there certainly will be a good crop of fall honey.

Mr. Samuel Cushman, of Pawtucket, R. I., writes the following encouraging items to the New England *Homestead* last week:

In many parts of the country, the roadsides and waste places are covered in the fall with golden-rod and wild asters. Of golden-rod there are many species, and of the latter, often called frost-weed, several sizes and colors, and most of these yield honey. Coming so late in the season, when there is little room to store it, and bees are quieting down for winter, the honey is not usually obtained as surplus.

Rev. J. W. Shearer, of Tennessee, once commenced in the spring with one colony, increased to 5, and extracted 500 pounds of aster honey, besides leaving a full supply in each hive for winter. Aster honey is a pale amber, very bright and clear, and in flavor is delicate and delicious. That from golden-rod is thick, darker, and stronger in flavor. When extracted it is generally obtained mixed. Both have a rank, weedy odor when first gathered.

C. E. Watts, of Rumney, N. H., in 1886, increased from 1 colony to 6, and obtained over 100 pounds of honey, mostly comb, all but about 25 pounds of which was gathered after golden-rod blossomed. Others in Virginia, Maine and elsewhere have done as well.

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

Abner Brown, possibly the most extensive apiarist in Ingham county, Mich., states that the honey yield this year will be an absolute failure. His 41 colonies will not produce more than enough to feed them during the winter.—*Lansing Repub.*

QUERIES AND REPLIES.

Do Queens Lay Eggs in Royal Cells?

Written for the American Bee Journal

Query 569.—1. Does the queen ever deposit an egg in the royal cell? 2. In what kind of a cell must an egg be laid to produce a female? 3. Are eggs ever put into the royal cell? 4. At what age should the larvæ be to produce a perfect female or queen?—G.

1. I think not. 2. In a worker or queen cell. 3. Yes, of course. 4. Not over three days.—DADANT & SON.

1. Yes. 2. In a royal cell to produce a perfect female (queen), and in a worker-cell for an imperfect female (worker-bee). 3. Probably so. 4. From 1 to 3 days.—P. L. VIALLON.

1. I do not know. 2. It makes no difference, so that it is hatched in a queen-cell. 3. Yes, by the bees. 4. Not more than 3 or 4 days' old.—C. H. DIBBERN.

1. Yes. 2. All impregnated eggs produce females, no matter in what kind of cells laid. 3. Yes, by the queen, and sometimes carried there by the workers, but not often. 4. From 1 to 36 hours' old.—G. M. DOOLITTLE.

1. I never saw her do it. 2. If the queen controls the fertilization of the eggs, the kind of cell has nothing to do with the sex. 3. Certainly, or there would be no royal bees. I have known eggs to be put into royal cells by the workers.—A. B. MASON.

1. The queen deposits the egg, and workers construct the royal cell. 2. If by "female" you mean queen, it is the food upon which the embryo bee is fed, which causes it to become better developed and become a *perfect* female. 4. See Langstroth's book.—MRS. L. HARRISON.

1. Yes. 2. The cell has nothing to do with sexuality. 3. Evidence proves that they have. 4. As early as possible after being hatched, and not over 3 days.—J. P. H. BROWN.

1. Yes, undoubtedly. 2. An egg that would produce a female in one kind of a cell, would produce a female if deposited and nourished in any other kind of a cell. 3. Yes, by the queen; not otherwise. 4. The younger the larva is when devoted to the purpose of producing a queen, the more perfect will the queen be, other things being equal.—R. L. TAYLOR.

1. I suppose that she does. 2. If by "female" you mean a queen, it may be laid in any kind of a cell, although nearly always an egg laid in a drone-cell will produce only a drone. 3. Certainly. 4. I should rather have them more than a day or so old.—C. C. MILLER.

1. I do not know. 2. It is my opinion that the cell must be worker size. 3. They must be "put there" or they would not be found there. 4. The books say not to exceed 3 days.—EUGENE SECOR.

1. I do not think that I ever saw one do it. 3. Yes, always. 4. It is best to produce from the egg; an egg just hatched will do.—H. D. CUTTING.

1. Yes, I have seen it done. 2. I have seen them in all cells of the hive except royal cells. 3. I think they are. 4. O, 2 or 3 days. I would risk them over 4 days old.—J. M. SHUCK.

1. I think she does. 2. A queen can lay an egg in any kind of a cell that will produce a female. 3. It is doubtful. 4. The younger the better. I have had good queens produced from larvæ three days old from the time the eggs hatched, but only a few.—M. MAHIN.

1. Authority says they do; yet I have doubts. Who has seen the queen in the act? 2. I have never known workers to be produced from drone-cells, however such a thing might be demonstrated on scientific investigation. 3 I think not, though it may be. 4. Four to six days.—J. M. HAMBAUGH.

1. This is a mooted question. I myself do not know. 2. I do not understand the question. Workers are females, and are reared in worker cells. Queens are reared in queen-cells. 3. See No. 1. 4. Not over 3 days old.—J. E. POND.

1. She does. 2. The cell is immaterial, though it is usually in a worker or queen cell. 3. Yes. 4. This question is indefinite. If the larva is fed 4 days as a worker larva, it will usually produce a drone-laying queen, and always a very poor one.—A. J. COOK.

1. Yes, but I never knew any but very old queens to do so. Very old queens instinctively fall into the plans of the workers, or at least submit to what is best for the future good of the colony. 2. It makes no difference about the kind of cells, a female is a female any day. 3. Sometimes by very old queens. 4. From 1 to 2 days old. I once had two queens reared from larvæ three days old, that made first-rate queens. On one occasion I transferred a 4-days' old larvæ to a provisioned queen-cell, and it came out a good, strong queen.—G. W. DEMAREE.

1. I think that she does, but I do not know positively. 2. To develop the perfect female, the egg must hatch in the queen-cell. 3. I fully believe that eggs are often carried by the bees and placed in the royal-cells, and fed with such food that they bring forth perfect queens instead of workers, as they otherwise would have done. 4. I suppose it might reach 4½ or 5 days of age, and then be changed; but I make a rule of 3½ days in my queen-rearing.—JAMES HEDDON.

1. Yes. 2. The only *perfect* female in the hive is the queen. An impregnated egg, no matter where it may be deposited, will produce a female if allowed to mature. 3. Yes. 4. Not over 3 days to produce a good queen.—THE EDITOR.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

CORRESPONDENCE.

BEE-NOTES.

Various Items Relating to the Management of Bees.

Written for the American Bee Journal

BY REV. J. D. OEHRING.

This is my fifth year in bee-keeping. I began by transferring 3 colonies from box-hives and 1 from a sugar barrel. The latter I transferred in December, the work being done in a dark cellar by lamp-light. It was a very populous colony, with plenty of nice comb in large pieces, but without any stores. I put them into an Armstrong hive, using ten frames, and fed them 20 pounds of granulated sugar syrup, within five days after transferring, and left them in the cellar until about Feb. 18, when I put them out for a flight. That season (1884) this colony gave me 2 good swarms, and 34 pounds of fine comb honey in sections.

This experience, when I was a "greeny," convinced me that transferring can be done almost any time when there is but little brood, if the work is carefully done, and the colony properly taken care of afterward.

Packing Bees—Extracting Craze.

I now have 34 colonies, mostly in new hives, which are cool in summer and warm in winter, like the log-house of our fathers. This is equivalent to saying that I winter my bees by packing, and tucking them carefully in before freezing weather has come, and then leaving them thus until warm weather is a settled fact. I have never lost a colony on account of cold or starvation (?!). (The interrogation and exclamation points are intended to express my doubt that bees freeze to death if they have available food, and my astonishment that any intelligent bee-keeper will allow a colony to starve.) I think the extracting craze is much to blame for the latter, as many bee-keepers—notably those who love bees because they love money—extract too closely early in the fall, hoping and expecting that the bees will fill up the hives (with what?) before winter.

I think that such conduct is not only foolish, from a business stand-point, but it is absolutely wrong—wicked. What right has any man to rob—yes, *rob* is the word—a family of bees which has worked for him all summer, and made seven or twelve dollars for him? What (moral) right has he to take well-filled frames from the brood-chamber late in the season, extract the honey, and give them back the empty combs? I say again, it is foolish and wrong! If they do not need all the honey they have stored in the brood-chamber, it is not lost by remaining there through the winter. Besides, I am very much misled by observations that I have repeatedly made, if a well-filled frame of honey on two sides of a brood-nest are not worth several times more than a

blanket or a basket of packing stuff to keep them warm.

This is my conviction on this subject; and until I shall repeatedly fail to winter my bees successfully, I shall persist in the "notion" that the much-dreaded and much-written-about "winter problem" should be made a "moral issue." I mean that plenty of young bees and plenty of good honey will prevent—if not cure—"winter killing" of bees.

Moving and Italianizing Bees.

I have moved my bees—not for fun or for play—four times in as many years; and here again I have failed to find wherein the danger and loss consist.

I began the business with black bees. My efforts, though persistent, to Italianize, have brought success only to hybrids—except 3 or 4 colonies from which I breed. I try to rear only pure drones, but all the bees kept in the neighborhood are blacks and hybrids, and my nice yellow young queens, nearly every time they go out, get into bad company and are spoilt.

Bees "of Color" Underestimated.

But, after all, I think that the bees "of color" are underestimated at the expense of the "bleached" race. Talk about the blacks being cross, and lazy, and what not! Why, last summer, I was stung nearly to death (figuratively) by a swarm of pure Italians when I tried to take them down from an apple tree! "They fit, and fit, and fit;" and after all the trouble, vexation and pain, and hiving them three times (in a nice, clean hive, too, in which they had empty frames, frames of honey, and a frame of brood), they finally left without so much as a "thank you, good by!" No colony of blacks ever served me in such a vindictive and ungrateful manner.

And robbing! They beat the worst pirates at that when once on a "scent." The only cure I have yet found for your "beautiful Italians," when they go out "coon hunting" during melon time, is to play "tit for tat" on them. That brings them home.

"But they gather honey from red clover, which the blacks and hybrids can't do." Yes, they can, but they do not do it much—at least not here where the clover gets very large. Besides, the blacks can beat them on "fitting and finishing;" they make nicer, whiter capping to their comb honey, every time.

Report and Prospects of the Season.

I wintered 18 colonies. In the spring (April 1) they had plenty of honey and brood, and though located in an orchard of 12,000 fruit trees (mostly apple and plum), they gathered nothing but pollen. In May I had to feed every one of them, and yet they "dwindled" some. White clover came on abundantly, but did not yield much. During linden bloom, which is abundant here, the weather was cold and wet until the best was past, and they got in only four or five days' work on it. Three hundred and fifty pounds of comb honey in sections is my whole crop, so far. I am getting 20 cents per pound for it.

There are about 80 acres of golden-rod within easy range of my apiary. It will begin to bloom soon, and I expect a good yield from it, if nothing befalls it. Last year a heavy frost overtook it in all its golden glory.

Next fall I shall (*D. V.*) pack up and go to Alachua Co., Fla., and I shall take a few colonies along.

Union Army and Scientific Pleasantry.

But before I go South I shall join the "Union" army. Hadn't we better send out recruiting officers? I will send you the fee when I sell my remaining honey.

Mr. Editor, you have "done up" that Wiley fellow in hot glucose now. No wonder he snarls and squirms. Thus may it happen to all the authors of "scientific pleasantries" on the honey question. We owe you a vote of thanks and a "gold-headed cane."

Parkville, Mo., July 25, 1888.

Summer Work of Bees.

Written for the American Bee Journal
BY GEORGE W. YORK.

The nectar so sweet the bee-keeper sees,
His hives filling up by the work of the bees,
Each coming laden with sweets from the trees.

A merry young bee goes forth from the home,
Mingling with others thus ready to roam—
Every one off for the flower-decked fields,
Right where the basswood so gratefully yields
Its bountiful treasure of bright, golden sweet,
Cheering each bee that so gladly they meet;
A busy and buzzing crowd are they—
Not stopping to idle, but working all day.

But to aid their keeper, we must allow,
Every bee makes it a solemn vow,
Ever to labor as hard as now.

Just over the hillside decked with flowers,
On field and meadow, 'neath blooming bowers,
Unseen and unheard does the "busy bee" work,
Rushing hither and thither, but never to shirk;
Now dandelions, butter-cups, lady-slips too,
Are yielding their sweetness for me and for you—
Loving the bees for all that they do.

Chicago, Ills. —*Acrostic.*

STINGING.

A Dream About "Holding the Breath" to Prevent Stings.

Written for the American Bee Journal
BY EUGENE SECOR.

I had a dream. You know it has been asserted as a scientific fact that a bee-sting cannot penetrate a man's cuticle while he holds his breath. I have a profound respect for science When science says a thing is so, it's got to be so. Science *used* to say the world was flat, and that the sun made his daily circuit around it. Of course it *was* flat then. Even Galileo openly recanted the spherical heresy. But now the world is round because science says so. When science says "thumbs up," thumbs must go up. People never suspect science of joking. When it said several years ago that, "*In commercial honey, which is entirely free from bee-mediation*, the comb is made of paraffine and filled with pure glucose by appropriate machinery," they believed it, and all the bee-keepers in Christendom have failed to convince them that it is not a fact. But to my dream.

My mind had been exercised over that scientific discovery, or the revelation of it rather. I wanted to test it. I had no doubt it was scientifically true, but you know the spirit of enquiry that pervades the mind of young America. For a man to be an agnostic in religious matters is considered smart in some circles, but to be a know-nothing in science is to lose caste.

This is a practical age, too, and the Yankee wants to demonstrate every theory he hears of. The only reason he does not, is because life is too short to devote to scientific investigation and money-making too.

It was a hot day at the close of the basswood harvest. But little honey was coming in. Swarming was apparently over. Bees were cross. I had lain down in the hammock for a short rest after dinner. I could hear the sweet hum from 40 colonies as the happy young bees sported in front of their hives. I lay there enjoying the music when I saw an after-swarm rushing with new-born zeal from one of my hybrid colonies. The frisky young queen soared high. After an unusually long frolic in the air they alighted in a jack-oak tree fully 25 feet from the ground.

As luck would have it, the swarming-pole was broken, and the boys had gone to the hay-field. The great 20-foot ladder was brought into requisition. As I could reach about 8 feet myself, it looked easy enough to secure them without any assistance. I leaned it against a dead limb, and it did not lack more than 5 feet of reaching to where the bees hung. With saw in one hand I ascended. Reaching next to the top round I could reach the limb on which the bees were clustered. I proceeded to hold the limb with one hand and to saw it off with the other. Just as it was severed, the added weight of the limb and bees with my own, broke the dead limb. The ladder dropped back 2 or 3 feet with a sudden jerk, shaking about half the bees off on my head, neck and hands.

Didn't I have a veil on? Not much. I am no green-horn in this business. Besides I was determined to demonstrate a great truth in science. I had the opportunity. They were not amiable. They were bent on mischief. With a wonderful unanimity of purpose, and surprising concert of action, they unsheathed their swords and proceeded to business. Of course I held my breath. I had been holding it for the major part of a minute in anticipation of just such a contingency. I filled my skin so full of resistance there wasn't any room for even the point of a javelin.

About a thousand bees, more or less, were humping themselves to get in the first "lick" at me. It sounded like frying fresh fish in salted butter. I held the fort, *i. e.*, I held my breath. I thought they would get tired of resist-

ing the inevitable laws of science, but they "held the fort" too.

In my zeal to demonstrate a scientific truth, I forgot to descend the ladder until I was as red in the face as a boiled lobster. I then for the first time realized the fact that I could not hold my breath more than several minutes even to accommodate science. I must have some oxygen anyhow, or my lungs would collapse like a pan-cake with too little soda in. I was not organized like a fish, that is sure (unless it was a whale), for I wanted to *blow*.

I was all the time standing on next to the top round of the ladder, holding on nervously by one hand to a small limb, and the severed limb and a part of the bees in the other. The rest were clutching my naked flesh with their claws, their backs elevated like a cat on the back fence at a feline concert. No matter, breathe I must.

Just then the faithful dog appeared on the scene, under the tree, as interested as if I was capturing a coon for his especial delectation. Although I was the *center* of attraction, enough scouts paid their respects to him to give him a warm reception. After rolling over several times, he started for the house in haste. You see he had not been educated to hold his breath. In going he ran against the foot of the ladder, and down it came, and "me too." When I struck the ground, I awoke. It was only a dream. A couple of robber bees were angrily buzzing around my head.

Forest City, Iowa.

SILVER LINING.

A Poor Crop, but Higher Prices are the Result.

Read at the Maine Convention

BY PRES. J. B. MASON.

Last year we passed through one of the hardest seasons in our pursuit that has been known for many years. This will totally dampen the courage of many of the beginners, and will cause a sifting out of the chaff from the wheat. It is said there is never a cloud so dark but it has a silver lining.

I think it is not hard to see at the present time that this poor season may be a blessing in disguise, and may work for the good of our business. Our large markets had got overstocked with honey, prices had been knocked down by shipping honey into the already overstocked markets, until honey was selling at ruinous prices. The Wiley lie was floating over the country, that there were numerous manufactories where bee-comb was manufactured and filled with glucose syrup, and sealed over with hot irons. The newspapers wafted this story along, and thousands believed the story although it was so inconsistent.

This failure of honey from the flowers has cleared out the honey markets so that commission men have been calling loudly for honey, at good prices. Where are these glucose manufactories all this time, that they allow the markets to become so bare of honey even at doubled-up prices? This ought to open the eyes of the community on this subject, and strike a death-blow to that infamous lie.

We owe a vote of thanks to Bro. Newman, of the AMERICAN BEE JOURNAL, for the fearless and manly way in which he has fought this falsehood from the start. Our product is now in good demand at remunerative prices, and it remains with the bee-keepers whether they will allow our markets to become so demoralized again, or whether they will, by some arrangement, have our honey more evenly distributed over our country. This is one of the great questions of the day.

Mechanic Falls, Maine.

THE UNION.

Join the Bee-Keepers' Union Before it is too Late.

Written for the American Bee Journal

BY HENRY K. STALEY.

Pursuant to the call for apiarists to become members of the Bee Keepers' Union, and cognizant of the dirty, mean, outrageous and untruthful lies circulated (a good deal like the way the Canadian thistle scatters its seeds over mother earth) concerning our occupation, by people who either seem to like to create a sensation for reputation by writing an untruthful statement, and then nonchalantly placing it under the title of an ("S. P."); or else by those who hold our pursuit as their "bone of contention," that they may have something upon which to gnaw and pick, and dilly-dallyers in it who very often are disgustingly ignorant anent apiculture; and also aware of the many cases in our pursuit *in re* bees puncturing sound grapes, being condemned as a public nuisance, and eating sound, young ducks, brought up before the courts through circumstantial evidence—that robber, very often, of a fair trial, under whose bloody banner many an innocent man has gone to the gallows—I feel it my urgent duty, although I have no need of linking myself to the Union, but towards helping to defend our pursuit in general, to contribute my mite of one dollar to the fund of the Union, which I heartily do.

I hope that the Union will still keep "banging" that vile monster in the "eye"—the enemy of our pursuit who is trying to wipe it out of existence—until it becomes so "black and blue" that he will have to hide his disgustful face for shame, veneered with lies of the most horrible stamp.

Reader, if you know any who are inclined to trudge after this monster into the depths of untruthfulness, catch him by the coat-tail (like alligators are about to do, often printed on the outside of envelopes, which say, "If not caught within 10 days, return to" so-and so) and "churn" him until he perceives his mistake, whereby, rest assured, you have saved him from a horrible calamity.

Right it is to look out for number one in this age in which swindling and bulldozing are indulged in to such a great extent by so many people, such as sharks, bunko-steers (fellows who make light the pockets of head-raised and open-mouthed swains), confidence men, etc. Any one acquainted with the habits of such scoundrels as mentioned above, knows that he cannot get "something for nothing" in this world, or the Latin saying applies as well, viz: "*Ex nihilo, nihil venit;*" but understands that he must look out for himself, and that is right, for we know that God helps the man who helps himself; but nevertheless, that is no reason why we should not look out for number two, especially when in return number two looks out for us.

Remember also, that if you get into a scrape or pickle, and then a few, after you have sent in your money for the first time, petition the Union for aid, your case would be in the same dilemma as the little girl, who, having obtained a pitcher of milk at the store, on the way home let it fall, and lost the contents; then, that it might soothe her, she wept tears until they coursed down her dimpled cheeks in tiny streams; but the crying over the "spilt milk" was to no avail, as the pitcher was broken and the *lac* gone.

And so of no use to you would it be to ask the Union for help, if you sent in your membership dues for the *primus tempus*, simply to get out of trouble, expecting the Union to bring about the end desired; for if you are not pumpkin-headed, you will understand what the Union means, if it should say, "It's too late to shut the stable-doors when the steed is stolen;" and more so if you are minus a couple of fine trotters by horse-thieves.

The parable of the "Ten virgins" would apply quite well to your situation; the Union would be willing to advise you, but of its "oil" it would give you none.

In conclusion let me say, "delays breed dangers; nothing is so perilous as procrastination." Yet it is "better late than never," as the saying goes.

Pleasant Ridge, Ohio.

DEAD BROOD.

Several Ailments which Affect the Brood.

Written for the American Bee Journal

BY H. E. HILL.

In reply to the query, "What ails the bees?" on page 501, I would say: Two years ago I met just such a condition of affairs in my apiary, and forwarding a specimen of the brood to Prof. Cook, I awaited the verdict with no little anxiety. It came, and was "chilled brood;" and I have since observed dead brood from different causes, which, owing to existing circumstances, remained untouched by the bees. Such conditions are, not infrequently, to be noticed in such colonies as possess great swarming propensities—if allowed to swarm until the remaining bees become so reduced as to leave the brood exposed to the chilly night air; and

such colonies will allow the brood thus chilled to remain until it becomes black and dries up in the cell.

This, however, would not appear to be the cause of the disorder in the "young colonies," which the lady reports "diseased," though the fact that it was necessary to cut out queen-cells from the young colonies, would go to prove one of two things, viz: they are "swarmers," or else the United States honey crop of 1888 is "bunched," and fortune smiles on Mrs. Dorsey's locality.

Another cause is, "scalded" brood. Last season (1887) the covers of several hives were laid directly over the brood-frames, without a cap, cushion, or other protection from the direct rays of the sun, and the intense heat, when no honey was flowing, would cause the bees to cluster outside the hive; and the result was thousands of dead larvæ, which remained in the cells for weeks. I am an advocate of *fire* for foul brood.

Titusville, Pa.

VENTILATION.

While Such is Necessary, it Must Not be Much.

Written for the Farm, Stock and Home

BY WM. URIE.

A great deal has been said about bees wintering without upward ventilation, and quite a number of bee-keepers claim that they winter better without any upward ventilation, saying: Bees in their natural state—in the trees of the forest—have no ventilation and winter well, and seem to do much better than those having the best of ventilation. We have found many wild swarms in the last thirty years in many kinds of trees, and in nearly every instance we found, either above or on the sides of the swarm, rotten wood which the perspiration from the bees could pass into, acting the same as upward ventilation. Some parties claim that they winter bees safely without upward ventilation, and that it is the proper way. If they will invert their hives and pour water into them it will run out, therefore they are not air-tight, for where water will run through, air will escape.

It is true, if bees are kept in a perfectly dry place and at a temperature of from 45° to 50°, they require much less ventilation than they would if kept in a damp, cold place. If bees are kept where it is continually freezing and there is no place in the hive for the escape of the perspiration that passes from the bees, it will commence to freeze on the outside of the hive, and if it continues cold you will find your bees dead, and ice formed all around the cluster of bees. Had there been a small opening at the top, or near the top of the hive, for the air to escape, nothing of the kind would have happened.

It only needs a very little upward ventilation for bees; a good many bee-keepers give altogether too much. They need all the heat in the winter and spring months that can be obtained. Give only what will be necessary to let the perspiration out so that the hive will not become damp on the inside. It is a good plan to leave the bottom-board off, or raise it up on blocks one inch, when wintering, especially in cellars; as the foul air always settles, and if the hive is raised it gives a chance for it to escape; and if there is any dampness in the winter depository it will prevent the combs from moulding.

The heat and circulation of the cluster of bees render the combs dry for some distance around the cluster, but there is not enough of this circulation of air, nor force, to drive it to all parts of the brood chamber, and a part (often a very large part) of the comb that is damp with moisture extends up at the sides of the cluster to the top bees. This moisture gets into the honey and causes it to sour; and as the foul air is impure, gas rises on top of the brood-chamber, making the bees uneasy and they begin to move about, use the sour honey (which causes the diarrhea), and the destruction of the colony ensues. We are safe in saying that a colony of bees never was known to have the diarrhea when the honey and combs were kept perfectly dry.

Those that winter their bees without proper ventilation are often heard to complain that their bees got restless and uneasy from being too warm. My experience has proven that it is not the warmth, but the fumes of the sour honey arising below and accumulating in the upper portions of the brood-chamber that makes them uneasy, and the removal of the tight cover on top of the hive at such a time will convince any person that proper ventilation is necessary to the health of the colony.

Minneapolis, Minn.

THE SEASON.

Experience with a Laying Worker, etc.

Written for the American Bee Journal

BY REV. S. ROESE.

On Nov. 14, 1887, I put into winter quarters 47 colonies of bees, but not in good condition, and the most of the hives with upper stories on all winter. On April 12 I put them out, and found 7 colonies dead; the rest very weak, and two were queenless. I lost 5 colonies by spring dwindling, making 12 lost in all, which was not very bad considering the cold and backward season.

In June one colony became queenless. I tried to have it rear a queen from unsealed brood given them, but a laying worker seemed to destroy the cells when nearly ready to hatch out. This laying worker annoyed me more than anything in the bee-line this season. Twice I gave them a new set of combs with brood, and twice I united them with a new swarm, and each time they became queenless, and went to naught. I finally removed the hive, placing in its stead a newly-hived swarm, most of the working bees going back to the old stand, and leaving the laying workers with a few bees alone, which I afterward shook on the ground, and made better use of the combs.

White clover yielded little honey in this part of the country. I left it all for the bees to breed on.

On June 1, I purchased 5 more colonies in Langstroth hives, for $12.00. Then I had just 40 colonies to begin the season with, which I have now increased to 82 colonies, 3 swarms having absconded.

The basswood honey flow was short, being only for a few days. Raspberry and corn have furnished the only surplus honey that we have had thus far; and for the last two weeks, the weather being so cold and wet, bees have not been doing anything, and they are so cross that no one dares come near the hives.

I extracted just 600 pounds of honey in all, up to date, and there are about 6 or 8 Simplicity section-cases nearly filled. This is not half the quantity of honey from 82 colonies that I had a year ago from only 47 colonies.

I fear that our honey season is over, at least for surplus, and bee-keepers had better prepare their colonies for winter early. If we are disappointed by an unexpected honey-flow this fall, it will be a happy disappointment. Crops here are almost a total failure. Winter wheat is not half a crop, and spring wheat is not worth cutting. Barley amounts to almost nothing, oats are partly filled, and if an early frost comes, corn will also be a total failure; thus people will have a reason to feel low spirited. But we will trust in Providence, having the promise that seed-time and harvest shall continue to the end of time.

Maiden Rock, Wis., Aug. 9, 1888.

CONVENTIONS.

The Benefits Derived from Bee-Keepers' Meetings.

Read at the Indiana Convention

BY C. H. HALL.

The old and familiar adage that, "Whatever is worth doing at all is worth doing well," is no truer in any other undertaking than that of the culture of bees. It was thought for a long time that the bee was guided wholly by instinct in the performance of its domestic duties, and that it did the best possible when alone. But since bee-culture has become a science, it has been found that the bee is capable of reasoning and being taught.

What the Bee has Taught Us.

The bee is much older than Adam, but it was left to the sons of Adam to make it possible for a single colony, which formerly yielded from 50 to 75 pounds of honey, to yield from 500 to 700, and even 1,000 pounds per annum. While man has enabled the bee to improve upon its old methods of work, and increase its products ten-fold, it has in return taught him not a few important facts. Through observations of this little animal in the field, he has learned the best method of cross-fertilization of all kinds of vegetation. The bee has taught him that a good fruit

year does not depend as much upon the fact that it is preceded by a white or black Christmas, as upon the number of bees that survive the winter.

Bee-Conventions are Modern Societies.

Bee-culture is a modern science. Thirty years ago a bee-keepers' association was scarcely thought of; to-day they are found in nearly every progressive county of the Union, where any attention is paid to the culture of bees at all. He who will take the time to run over the records of the last thirty years, will very soon discover some of the benefits derived from such associations. No single individual has ever been able to discover all that can be found out concerning any one thing. God never designed that he should. Man's dependency is one of the causes of his sociability; and should he become independent in any one particular thing, in that proportion will he become reserved and selfish. So the benefits of sociability and meeting with friends and neighbors, and the exchange of opinions that come to the members of every association are found as well in this organization.

But it is our purpose to ascertain some of the special benefits derived from a bee-keepers' association. These benefits may be classed in two divisons, viz: the immediate and remote. I take the prime object of bee-culture to be the production of honey; and whatever relates especially to that in this essay, I have denominated as immediate benefits; and those things which relate to the study of the bee as an animal, or to the development of the flora, I have designated as remote benefits.

Bee-Hives Used Long Ago.

It was thought at first that the hive most nearly like the one the bee used in its wild state, would be best suited for her demands; so a portion of a hollow log was used, and probably received the name of "gum" from the tree of the same name, from which it was taken. When the tree could not be obtained, a box opened at one end, whose diameter was about the size of the supposed tree, was used. Where do you find such a hive to-day? Show me such a hive and I will show you a man who either does not take much interest in bee-culture, or else he has been compelled by emergency to use it merely as a temporary convenience.

With such a hive the colony was almost destroyed every time the honey was taken; and then we called it "robbing" the hive; the word hardly expresses the act, unless we think of it as a highway robbery, where the individual is knocked down and left for dead. To-day, with the aid of recent inventions, we are enabled to take the honey without either robbing the hive or destroying the bees.

Value of Movable Comb Hives.

The invention of the movable comb-frames has added probably as much to the real progressive spirit in bee-culture as any other one thing. With these the frames can be removed with the comb, and the honey extracted without injury to either the bees or the comb. This method of removing the honey from the combs and then replacing them, is a great saving, both in time and honey.

Mr. Milton, of Wisconsin, says that it takes the bees as long to produce one pound of wax as it does to procure 20 pounds of honey; and Dr. Kirtland says they consume 25 pounds of honey in producing one pound of wax. For every pound of wax they produce it costs 45 pounds of honey. All of this is saved to the farmer by the investment of a little means in improved hives, and a cheap apparatus by which the honey is driven from the combs by means of centrifugal force.

Besides the increase in honey obtained on account of the movable frame hives, they greatly aid in the regulation of the breeding. The drones are like some who go by the same name in the human family, eating much and doing little; hence, when the drone season is over, the workers kill the drones or drive them out to starve; but, if the workers make a mistake and form too many drone-cells, the drones will sometimes be so numerous as to eat the honey as fast as the workers can procure it; but with the improved hive containing the movable comb, the drones can be removed and a comb for rearing workers can be inserted in its place. In fact the whole breeding department can be regulated to suit the convenience of the bee-keeper.

In the cross-fertilization and the rearing of queens, the movable frame hives, says Richard Colvin, of Baltimore, are indispensable. He says that without them he would despair of Italianizing an apiary of even moderate size.

The inventions in bee-hives during the last few years, have been quite numerous; and it is the design of these associations to take up these different inventions and discuss their relative values, and select the best from all.

Knowing How to Winter Bees.

It is of great importaince to know just how to take care of bees through the winter. Some farmers seem to be very successful with their bees without any special care, while others with all their care lose nearly all. One will leave his hives standing during the winter just in the same place, and with no more protection than they had during the summer; while another places straw, or perhaps carpet, around his bees, and a few will put their hives into the cellar; and it happens frequently that each one has some peculiar experience. In these meetings these peculiarities are made known, and their causes inquired into. The annual or semi-annual meetings are fraught with more good than we at the time realize. It not unfrequently happens that many facts are recorded with all their coincidences which at the time illuminates nothing, but in the course of a few years become of great interest.

The Purpose of Bee-Conventions.

The meetings are to a great extent for the purpose of collecting and comparing data; and among the abundance that will be collected, there will be not a little that will be classed as "trash:" but a great deal of it will be of untold value to the progressive bee-keeper. In making our deductions from these data, we should be very careful to make the fullest examinations of all the facts. No conclusions must be hurriedly formed. It is not sufficient to say that one man lost his bees because they were left out-of-doors; for probably his neighbor never lost a single colony, and to all appearances they had the same things to encounter. It is a common occurrence that two thermometers of the same make, and only a short distance apart, will register from one to three degrees differently. The circumstances should be given in all their particulars, as to the make of the hive, the protection from the wind, rain and snow, how near the ground, etc.

Wintering Bees in Cellars.

Bee-keepers in general, who have tried it, recommend the wintering of bees in the cellar, which should be kept at a temperature of about 40°. It has been found that bees when well protected in this way, consume about two-thirds less honey than when left exposed to the weather. The bee must be treated in a great many respects as we treat other domestic animals. They do not hibernate during the winter as a great many persons suppose. Two things are absolutely necessary, namely, food and warmth; without either they are sure to die. It not unfrequently happens that colonies are very poorly supplied with honey for the winter, and must be fed. To ascertain how well the provision is lasting, examinations must occasionally be made. This can be accomplished with any degree of satisfaction, only with the use of the movable frames.

Bees Dying Without Apparent Cause.

Occasionally bees seem to die without any apparent cause, and the question is asked all over the country, "What was the matter with my bees? They have all died while the combs are full of honey. They could not have starved to death, for the hives were found to contain an abundance of honey. It is hardly probable that they froze to death, for in former years they withstood days of severe cold." Such has been the reasoning in respect to this puzzle. I remember one year ago, some thought owing to the drouth in the fall, the bees had been compelled to gather poisonous honey, and therefore they had all been poisoned. But all of the bees did not die; and if some colonies had gathered this poisonous honey, would not all in the same apiary have gathered it? The theory of being poisoned does not seem to me to be a reasonable one.

I remember at the same time some reported a few hives empty of both bees and honey, and the conclusion reached was, that these were weak colonies and poorly supplied with honey, and did actually starve to death. One bee-keeper stated that a portion of his bees he wintered in the cellar, and another portion were left out and were well protected. Of those that were

wintered out-of-doors, nearly all died, while those in the cellar nearly all lived. It seems to me that with the evidence presented at that meeting, the coroner would have been compelled to render a verdict after this form :

The majority of the bees which died during the winter of 1884-85, came to their death by freezing; but why they should not have frozen during previous winters when the weather was much colder, does not come within the jurisdiction of this case. But the question does arise in the minds of every bee-keeper, why did they not die at any other time when the winters were fully as severe ?

Loss of Bees by Freezing.

In looking over the records of the past year, I find that this same question was asked of nearly all northern bee-keepers in the spring of 1863. Mr. Richard Colvin, of Baltimore, says that this question was asked him more than a hundred times. He says that the anxious inquirer has unconsciously answered his own question, when he says, "The hives are full of honey." He says that if you had examined your hives, you would have found your bees huddled between the cold walls of honey where they froze to death; and probably you would have found a late swarm which had starved to death in and between the empty combs. The simple exchange of a few full combs for a few empty ones among these colonies would have saved both, and placed them in their best condition for breeding in early spring; for it must not be lost sight of, that the colony in which the combs are filled with honey, has no room for breeding, while the others would have nothing to feed the young, if bred, until it would be furnished by the flowers, which may not bloom before the following May.

If the above be the true explanation of this mystery (and I have no doubt that it is), how many thousands of dollars might have been saved last year had every bee-keeper been aware of this fact. Such questions as these are the vital questions to be discussed in these meetings, and just as much of the discussion as possible should be spread upon the minutes and kept for future reference.

Personal Experience in Conventions.

The methods of breeding, rearing queens, dividing colonies, producing crosses, strengthening weak colonies, etc., are subjects which cannot be discussed too frequently, and with too much enthusiasm in these meetings. As the result of these gatherings, I believe that more will be accomplished when each member gives his own personal experience in the work, rather than that which he has obtained from some work upon bee-culture. Whenever anything is presented to this body that has had no practical test by any member of the association, it amounts to nothing more than a mere suggestion. You want to know what success your neighbor has had in this or that experiment, and he desires to know what success you have had. Theories are good, but facts are better.

PURE HONEY.

How to Create a Demand for Liquid Honey.

Read at the Maine Convention

BY I. F. PLUMMER.

Pure extracted honey is a fit dish to set before kings and queens, and yet cheap enough to be placed upon the table of every poor man in this country. Let the bee-keepers of Maine produce all of the extracted honey that can be produced, and try with all their powers to develop a good home market for a nice, pure, unadulterated article, put up in neat, glass jars or bottles, with the bee-keeper's name and address, saying that the contents of the glass is of strictly pure honey stored by bees. Label your honey in this way, with neat, colored labels put on in a tasty shape, and I affirm that you will soon develop a good home market for your extracted honey at fair prices, but not high prices, by any means.

Often when I carry my extracted honey to market to sell, I will meet men who will say, "I know that honey is not pure;" and they will say what honey they consume, they want it to be pure comb honey. To such, I almost always explain and tell them of the different points in regard to extracting, and the reason for the honey candying, and by so explaining to them, I many times sell them a jar of honey, and the next time I see them, and many times they come where I am, before I have time to see them, and their talk will be something like the following :

"Mr. Plummer, I want some more of that nice honey. How much have you on hand ? That was good honey you let me have the other day; it went so nice on hot-cakes that we had for supper the other night, and the children just went wild over it. I treated some of my friends to a dish, and all of the time they were partaking of it, they smiled and just boiled over with a sweet look that I never shall forget, no, never! Now, be sure, Mr. Plummer, and bring me some more of that honey when you come to town. My cousins, and my uncles, and my aunts want you to save a few pounds for them; so good-day, Mr. Plummer; but please remember that honey you are going to bring me next week, sure !"

Now, brother bee-keepers, you see that I can sell this man and his friends lots of honey in the future, if I only put up a nice article in an attractive shape, and of first class quality. My crop of extracted honey is all sold, though the demand is not so good as in 1886. What I mean by that is, the store keepers in my market do not call so much for extracted honey as a year ago, but with private consumers, or my customers, the demand is good.

When the consumer learns to like nice extracted honey in all its purity, comb honey will then take a back seat, and extracted will come to the front to stay; but of course we bee-keepers, who produce extracted honey, have to labor hard to educate the public up to the use of a pure, unadulterated, virgin sweet, gathered by the honey-bee from nature's store-house, and stored in the hive, and taken by the bee-keeper from the combs with the honey extractor, placed upon the markets of the world in competition with comb honey, and what is worse, in competition with that mean, contemptible set of men who adulterate every nameable thing that comes on the table of the rich man and the poor man, the high and the low.

Extracted honey is more easily produced than comb honey, as you all know, and comb honey is harder to get when we have cold nights in the honey season, as bees will not take to the boxes in cold spells when they will work below in the body of the hive; and in this locality, last September and the first of October, we had a fine flow of honey from fall daisies, put in the frames below, but not a pound of comb honey was stored in the surplus boxes, so we got lots of honey below, more than was wanted for winter, and here was where the honey extractor came in play in the apiary. The bee-keeper at times must produce extracted honey, or none at all, and more so some seasons than others. I for one know that it pays to produce extracted honey any season, when there is any honey in the flowers for the bees to gather.

Augusta, Maine.

MANAGEMENT.

How I Manage my Bees—Some Questions.

Written for the American Bee Journal

BY A. C. WALDRON.

In my two years' experience with bees, I have learned a great many things, and there are a great many things that I do not know. I find by handling bees I get more confidence and less stings; I find that the poison does not affect me as at first, unless stung on some sensitive nerve; and I find that a good veil and smoker are essential, as well as a uniformity of hives. I do not use gloves, but use "false sleeves," such as grocers use, with rubber bands, and when in a critical place, I draw them down over my hands.

When bees swarm they sometimes cluster in a place where it is very annoying to the apiarist. This can be remedied by a liberal application of smoke, when they will seek another place.

I find that dry corn-cobs make excellent fuel for smokers. To prepare them, take a small mallet and strike the cobs on the sides until they split, which will generally be in four pieces.

In uniting bees, smoke them well or there will be a "fight." To build up a weak colony, remove a strong colony and place the weak one in its place; or, in other words, exchange places with the hives; and last but not least, take the BEE JOURNAL and read it.

There are some things I would like to know: 1. Why will bees insist on filling the brood-chamber full of honey, when there is plenty of room above ?

Some of my colonies have done so to such an extent that I was led to think that they were queenless. 2. Will some one who uses the Simplicity hive, give some instruction in regard to the use of wide-frames. I am using them this year for the first time, without honey-boards or separators. I fear I have made a mistake.

Bees came through the winter rather weak, but have done well as far as building up and increase is concerned; but we have failed so far to get much surplus. We have good bee-pasturage here, consisting of white clover, basswood, and an abundance of wild flowers. Our most critical point is the wintering of bees. To any one who may contemplate moving to the West, I could offer some suggestions of value.

Buffalo, Minn., Aug. 10, 1888.

[1. Their nature and instincts teach them so to do; they store above the brood-nest when it is all full below, because they are obliged to do so, or not store at all.

2. The use of wide frames without separators is one of the greatest "mistakes" that could be made. The comb will be built so irregular that the sections cannot be crated for the market. You should either put on the separators or use some other surplus arrangement calculated for such non separating method.—ED.]

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Aug. 27.—Stark County, at Canton, O.
Mark Thomson, Sec., Canton, O.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

Oct. 3-5.—North American, at Columbus, O.
W. Z. Hutchinson, Sec., Flint, Mich.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Removing the Queen.—Gerd Wendelken, Marietta, Ohio, on Aug. 10, 1888, writes:

I believe that a removal of the queen about 3 weeks before the close of the honey harvest secures more honey, because it prevents increase, and lessens the number of consumers; but will this gain of honey be stored in the sections instead of in the brood-nest, like the bees do after a swarm has issued? Besides this, I think that it weakens the energies of the bees to work, after no brood is in the hive to work for. Bees, I believe, work for the brood only, not for themselves, nor for any other purpose. When a queen is taken from a colony, the bees find plenty of empty cells to store honey in, and will do it before filling the sections.

Much Rain, but Little Honey.—N. Staininger, Tipton, Iowa, on Aug. 14, 1888, says:

Bees have not done much here this summer. White clover yielded pretty well. The colonies built up strong in bees, and stored some honey in the sections; then came basswood, which yielded well for a short time, and since then bees have hardly made enough to live on. They swarmed mostly before the basswood honey-flow, about 50 per cent. of mine swarming this season.

We are having a great deal of rain now, and all kinds of weeds are growing fast. We may have some honey yet—enough for the bees to winter on at least, if no surplus.

I would say to the readers of the BEE JOURNAL, do not hold your breath till the bees get done stinging. I was soon convinced of this fact, the first trial I made, and any one having any doubt, let him just pull off a hive cover with a jerk, and not use any smoke, and I think he will be convinced.

Fall Crop of Honey.—T. F. Bingham, Abronia, Mich., on Aug. 13, 1888, writes:

Bees are doing better now than at any time before this season.

Must Not be Discouraged.—H. M. Seeley, Harford, Pa., on Aug. 11, 1888, writes:

Bees in this vicinity have done poorly, as it has been so very dry. I have 2 colonies which have given me 75 pounds of honey each, from raspberry and white clover. From the balance of my colonies (5) I have taken only about 10 pounds in all. The first 2 colonies I did not let swarm, but each of the others gave me a good swarm. They are now storing honey from buckwheat quite fast. Taken all together, we shall have to count this as the third poor season in succession, and yet it will not do to get discouraged, at least it will not do for me.

Well Pleased.—Arthur F. Brown, of Huntington, Fla., on Aug. 2, 1888, writes thus concerning our bee-book:

The book, "Bees and Honey," is received, and I am well pleased with it. I think it should be in the hands of every bee-keeper.

Rearing Queens.—J. W. Tefft, Collamer, N. Y., writes as follows:

As early as possible in the spring, I select two of the best queens that had the best record the previous season; one dark and one light-colored queen. I put both to work for honey, and from one I rear all the drones for the apiary, and push this drone queen as fast as I can, to get the swarming fever. I then remove the queen from the drone hive, and in five days after I cut out all the queen-cells, and again on the tenth day, and then reverse all the brood-frames, so as to make them hopelessly queenless. On the twelfth day I give them a frame of fresh eggs from the breeding queen; seven days after I cut out all the queen-cells that are capped over, and four days after this I do the same, and form a nucleus colony of them, leaving but one in the parent or drone colony. By this system I get strong, vigorous queens and drones, that can fly several miles if the queen can go so far; and we have high authority from such as Huber, Dzierzon, Langstroth, Cook and Chester, that the queen mates with the drone that can keep up with her. This is the way to produce honey-gatherers, and the only way. When a good queen mates with a pigmy of a drone, we get poor workers. "Dollar queens" are a detriment to any apiarist. The bee-keeper who makes an investment for the purpose of getting something for nothing, generally succeeds in getting something in addition to "getting left;" he usually get a little experience.

A Peculiar Colony.—C. Kellogg, Hokah, Minn., on Aug. 10, 1888, says:

I have only a few colonies, and one of them has performed so strangely, that I would like to have it explained. It cast a swarm on June 13, and just three weeks afterward the queen left the hive, taking a portion of the bees with her. On examination I could not find any sealed brood, and but very few eggs—not even one queen-cell; but the remaining bees soon built some, but failed to rear a queen from them, and now they are queenless. I should like to know the cause of it, and if it is a common occurrence. The remaining bees appear to be of inferior quality, but the swarm that issued from it are nice bees, and are doing finely.

[It is evidently one of the perplexing cases of "after swarming." In some of such cases, the bees, especially Italians, do many eccentric things, such as leaving without constructing queen-cells, going off without clustering, etc.—ED.]

Much Bloom but No Honey.—John B. Avery, Stittville, N. Y., on Aug. 13, 1888, says:

The honey crop in this locality is very poor. There was plenty of white clover in bloom, but it was too cold for it to secrete much nectar. Basswood was loaded with blossoms, but not much honey. Last year I obtained 975 pounds of honey from 13 colonies, and increased them to 26 colonies. This year I obtained 600 pounds of honey from 25 colonies, and increased them to 38 colonies.

Convention Notices.

☞ The Darke County Bee-Keepers' Society will hold a basket meeting on the Greenville Fair Grounds, on Friday, Sept. 7, 1888.
J. A. ROE, *Sec.*

☞ The North American Bee-Keepers' Society will meet at Columbus, O., on Wednesday, October 3, 1888, and continue as usual in session for three days. W. Z. HUTCHINSON, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold their fourth annual picnic at the Floral Trout Ponds, in Cortland, N. Y., on August 30, 1888. Let all bee-keepers and their friends come and have a good time. W. H. BEACH, *Sec.*

☞ The Susquehanna County Bee-Keepers' Association will meet in the Court House at Montrose, Pa., on Saturday, Sept. 8, 1888, at 10 a.m., Sharp. The following subjects will be considered: Preparing Bees for winter; Preparing for, and Marketing, Surplus Honey; Does the Raising of Small Fruit Conflict with Bee-Keeping? All bee-keepers are cordially invited to attend. H. M. SEELEY, *Sec.*

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosiug it in a letter, it is without excnse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If yon have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly snbscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexations delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procnred at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three snbscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must he sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten ponnds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is snfficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Conventions.—The time for holding Bee-Keepers' Conventions will soon be here, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 13@15c.; the same in 2-lbs., 10@11c.; buckwheat 1-lbs., 10c.; 2-lbs., 9c. Market dull. We are doing all we can to reduce stock, to make room for the new crop.
BEESWAX.—28c.

May 21. HILDRETH BROS., 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.

June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white in 1-pound sections, 14c. No new in market, and old is not selling.
BEESWAX.—22@23c. Supply limited.

July 24. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—New crop offered at 16@17c., demand being very light yet. Extracted is nut in much demand, and prices are nominal at 7@8c. for the best grades.
BEESWAX.—22c.

Aug. 14. R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@85c. per gallon.
BEESWAX—Dull at 23½@24c.

Jun. 15. F. G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—None here, and market in good condition for new crop. There is some demand for the extracted.
BEESWAX.—22c.

Aug. 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@18c.—Supply is large of last year's comb honey, and for which the demand is slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Aug. 15. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 14@18c.; 2-lbs., 13@14c.; 8-lbs., 12@13c. Extracted, white in kegs and ½-barrels, 8@8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 8@8½c. Demand good for extracted, but dull for comb.
BEESWAX.—22@25c.

July 2. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@ 3c.

Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote: 1-lb. sections, not glassed, at 18c.; 2-lb. sections and dark ones, also extracted, is not in demand. New honey is arriving freely, with a fair demand. This part of the State is favored with half a crop.
BEESWAX.—None in market.

July 20. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote: 1-lb. sections, 14@16c.; 2-lb. sections, 12@13c. New Florida extracted, 8@9c. Sales are very dull.
BEESWAX.—25 cts. per lb.

July 5. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Choice new extracted, 5 to 5½c.; amber to light amber, 4½@4¾c. Choice comb in 1-lb. sections, 13@14c.; 2-lbs., 12@13c. Arrivals are small, as apiarists are holding back. Prices are considered high.
BEESWAX.—18@22c.

Jun. 25. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 18 to 20 cts.; 2-lbs., 15@16c. California white 1-lbs., 18c.; 2-lbs., 15c.; extracted, white, 8c.—amber, 7c.
BEESWAX.—None on the market.

Aug. 10. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, dark, 4@4½c.; bright, 5@5½c.; in cans, 7@8c. Comb, white clover in prime condition, 13½@15c.; dark, 11½@12½ cts.—Market quiet, demand good and receipts light.
BEESWAX.—22c. for prime.

Aug. 10. D. G. TUTT & CO., Commercial St.

CARNIOLAN

QUEENS.

Gentlest bees known; not surpassed as workers even by the wicked races.

Imported Queens, "A" grade, $6.00, Tested, $4.00; Untested, $1.00,

One-half dozen $5 00

Never saw foul brood. Cash always required before filling an order.

S. W. MORRISON, M. D.,
14Etf Oxford, Chester Co., Pa.

SELECTED Tested Breeding Queens, only $1.00 by return mail; 2-frame Nuclei with same Queens, $2.50 each—two for $4 00. Also Hives for sale cheap. Address at once,

S. F. REED,
33A2t NORTH DORCHESTER, N. H.

Mention the American Bee Journal.

NEW ONE-POUND HONEY PAIL.

THIS new size of our Tapering Honey Pails is of uniform design with the other sizes, having the top edge turned over, and has a bail or handle,—making it very convenient to carry. It is well-made and, when filled with honey, makes a novel and attractive small package, that can be sold for 20 cents or less. Many consumers will buy it in order to give the children a handsome toy pail. **Price, 75 cents per dozen, or $5.00 per 100.**

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,.....CHICAGO, ILLS.

HONEY

WE are now ready to receive shipments of HONEY, and would be pleased to open correspondence. Liberal advances made on consignments. Let us hear from you, as we can render prompt returns at the top market values. Reference on file with the American Bee Journal. S. T. FISH & CO.,
33A20t 189 So. Water St., CHICAGO, ILL.

Mention the American Bee Journal.

VICTOR

SAFE.

DESIGNED for the Farmer, Lawyer, Doctor, Postmaster, Merchant, Township and County Officer, the Bee-Keeper, the Home—in fact every one should have a secure place for valuables.

We offer in the **VICTOR SAFE** a first-class Fire-proof, Burglar-proof, Combination Lock Safe, handsomely finished. Round corners, hand decorated; burnished portions are nickel-plated. Interiors nicely fitted with subtreasuries, book-spaces and pigeon-holes.

Prices range as follows:

	OUTSIDE.	INSIDE.	WEIGHT.	PRICE
No. 2.	22x15x16,	12x8x8½,	250 lbs.	$30 00
No. 3.	28x18x18,	15x10x10,	600 "	40 00
No. 4.	32x22x22,	19x14x12½	800 "	60 00

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St.,... CHICAGO, ILLS.

JUST PUBLISHED,
"PRACTICAL TURKEY RAISING"

By Fanny Field. This book tells all about turkey raising, from the setting of the eggs to the maturity of the young turks. If you follow the directions in this book you need not lose a bird. Fanny Field has had more experience and succeeds better in raising turkeys than any other person in America. She clears hundreds of dollars yearly on them, and will tell you how she does it. Price, 25 cents. Stamps taken. Address R. B. MITCHELL Publisher, 69 Dearborn St., Chicago, Ill.
31C2t

Mention the American Bee Journal.

HANDSOME

ONE-PIECE SECTIONS.

WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

Mention the American Bee Journal.

Patent Flat-Bottom Comb Foundation

High Side Walls, 4 to 14 square feet to the pound. Wholesale and Retail. Circulars and Samples free

J. VAN DEUSEN & SONS,
(SOLE MANUFACTURERS),
1Atf SPROUT BROOK, Mont. Co., N. Y.

Mention the American Bee Journal.

BY Return Mail—Italian and Albino Queens, Tested, 90c. each, or $10 per doz. Untested, 60 cts. Four-frame Nuclei, with a tested Queen, $2 00 each.

GEO. STUCKMAN, NAPPANEE, IND.
30Etf

Mention the American Bee Journal.

THOMAS G. NEWMAN & SON,

WHOLESALE & RETAIL

SUPPLIES for BEE-KEEPERS

ALSO DEALERS IN

HONEY and BEESWAX,

923 & 925 West Madison St., CHICAGO, ILL.

Mention the American Bee Journal.

SAMPLE COPIES of the AMERICAN APICULTURIST and our Price-List of Winter Strain of Pure Italian Bees sent free. Address,
18Etf APICULTURIST, Wenham, Mass.

Mention the American Bee Journal.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

HONEY-EXTRACTOR FOR SALE.

A 4-Langstroth-Frame "Stanley Automatic Honey-Extractor, price $12 00; cost $20 00 last spring—used but one season. Reason for selling—cannot sell extracted honey.

GEO. L. TRANSUE, EASTON, PA.
34A1t

Mention the American Bee Journal.

EXTRACTED HONEY.

WE are buying WHITE EXTRACTED HONEY. Those having any for sale, are invited to correspond with us, stating the quality, flavor and price.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Aug. 29, 1888. No. 35.

EDITORIAL BUZZINGS.

Be True to yourself, and then you cannot be false to others, nor to your principles.

We have received a lot of samples of new honey labels from Abbott Brothers, Southall, London, England. They are elegantly printed, and make a very attractive appearance.

In Answer to Query 564, last week, on page 550, top of middle column, Mr. Shuck's answer should read thus: "I wouldn't risk them over four days old." The omission was an oversight of the writer.

A New Bee-Book is just published in the Welsh dialect, by H. P. and M. D. Jones, at Bala. Its title is "Y Gwenynda; sef Llaw-lyfr Ymarferol ar Gadw Gwenyn." It has 50 illustrations, and is sold in Wales for a shilling.

Our Pamphlet on "Honey as Food and Medicine," has been translated into French and printed in large pamphlet form, 20 pages. It is published at the office of *Le Rucher* by Alexander Le Roy, Rue Blinde-Bourdon 22, Amiens, and sold at 10 cents. It may also be obtained at this office.

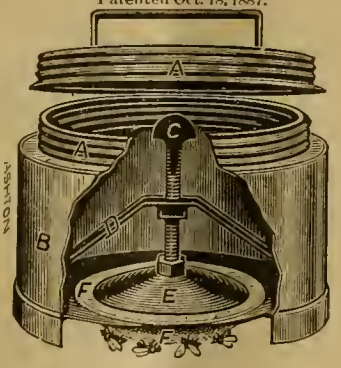
Orange County, New York, it seems has had a good honey crop—or at least E. D. Howell, of New Hampton, says that his white clover honey crop is the best for 11 years. There are spots where they can enjoy the FUN of making such a fine showing, but in the great majority of places the cry is "no honey and no swarms," or "we have had the poorest crop of honey in a dozen years." But variety is pleasant!

Not a Nuisance.—Mr. Z. A. Clark writes that he was fully prepared to prove that his bees were not a nuisance, had the opportunity been presented at the trial before the Circuit Court. This is what he writes:

I had 25 witnesses summoned in defense of the Union, by whom I would have proved that the bees were not a nuisance; in fact, I never knew of a team or teamster ever being stung while passing my premises. The sole ground-work was prejudice and ignorance. They have now taken the case up to the Supreme Court.

Bee Stings.—The *British Bee Journal* gives the following remedy for bee-stings: Drop one drop of phenol diluted in water on the place stung; moisten with alum and rub for a few seconds, and the pain will disappear quickly.

New Bee Feeder.—M. E. Hastings, of New York Mills, N. Y., has sent us one of his Perfection Feeders, which is illustrated by the engraving. It will hold two quarts, and the letting down of the feed is regulated



by thumb-screw C. The cap screws on at A. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

How to Get Rid of Ants.—There are, says Prof. Cook in *Gleanings*, two good ways of destroying ants in the apiary. One is to find their nest and make a hole in the center of it with a crow-bar or other iron rod, then turn in half a gill of bisulphide carbon, and immediately fill the hole and cover it with a little clay, which should be trampled down. The liquid vaporizes and kills all the ants. Like gasoline, it is very inflammable, so it must not be exposed, either the liquid or vapor, to the fire.

Another way is to mix a little London-purple with thin syrup, and enclose it in a box with wire gauze so that the ants can reach it, but not the bees.

Hiving Bees.—W. J. Daniel, of Kentucky, has just patented a device for hiving bees. It consists of a double pole, the two lengths being held together by clamps, and adjustable at any heighth, with a hiving box at the top. As will be noticed by the following description from the *Scientific American* of Aug. 18, 1888, it has been repeatedly described in the BEE JOURNAL:

It is constructed with a standard having points on its lower end to take a firm hold on the ground, and a guide loop near its upper end for holding a sliding box or hive supporting section. The sliding section has a loop to clasp the standard, and at its lower end has a hinged extension piece, which serves as a handle for sliding the upper section, this extension piece having a sharp pin to strike into the upper section for holding the piece in folded position. The sliding section is held at any desired place by inserting a pin beneath it in holes provided therefor in the standard.

It was also described and illustrated in *Gleanings* for this month, page 611, and is claimed by A. C. Williamson, of Friendly, W. Va. A similar thing was also described several months ago both in *Gleanings* and the AMERICAN BEE JOURNAL, as the invention of S. W. Morrison, M. D., Oxford, Pa.

Some Curious Insects, by Noble M. Eberhart, B. S., Ph. D. This is a neat little cloth-bound volume, giving an account of the habits and peculiar characteristics of a number of interesting insects. The book is especially suited to children, affording wholesome and interesting reading, combined with valuable information and instruction. Illustrated. Price 50 cents. It is published by Eberhart & Son, 182 Dearborn St., Chicago, Ills.

When the Buckwheat Yields Honey.—Mr. S. J. Youngman, of Cato, Mich., under date of Aug. 12, 1888, remarks thus about buckwheat bloom:

I have observed that the buckwheat bloom yields no nectar in the afternoon in this vicinity. Is this a characteristic of the plant throughout the United States? Are some varieties better than others to yield honey?

Will those apiarists who have watched buckwheat bloom in various localities, please give the result of their investigation on this point.

The White Sulphur Springs, of Virginia, belonging to Mr. E. C. Jordan, one of Virginia's famous bee-keepers, had a very complimentary notice in the Havre de Grace *Republican* last week. In the "Bill of Fare" we notice as usual that "honey" holds a prominent place among the excellent variety of viands therein enumerated. The whole-souled "Host" looks out for the comfort and welfare of his numerous guests. If any of our readers want to take a "quiet rest," and enjoy the comforts of life, they should go to White Sulphur Springs, Va.

GLEANS OF NEWS.

A Cartoon appears on page 635 of *Gleanings* for Aug. 15. It seems that a "Rambler" is abroad in the land "taking notes," and is printing them. He mentions a plan for wintering bees which was being developed by a 16-year-old bee-keeper. Having purchased a swarm of a Frenchman he followed his directions for management. The Frenchman told him he never lost a swarm in wintering, if the hive was placed upon a wagon-wheel. The young novice followed directions; and what was the surprise of the father to find nearly all of his wagon-wheels arranged in an upper room, and hives placed upon them! The story runs thus:

"For the land's sake, Brodie, what are you going to do if you get a hundred swarms?"

"Why, dad, I can borrow wheels of the neighbors, or I can hire a wheel for a pound or two of honey, and it will pay; for the Frenchman said it's a sure way to winter bees."

After the Rambler's amusement subsided, a sober second thought led us to believe that the boy was only acting out the modern bee-keeper's spirit. Looking over the field we found nearly every prominent bee-man hanging on to his wagon-wheel. Doolittle's wheel is nature; Heddon's is pollen; W. F. Clarke, hibernation; A. I. Root, anti-patents; Miller's T supers, etc.

Our dreams that night as we rested under the roof of a cousin's residence, were filled with floating vistons of wheels, potato-sacks, balloons, etc. Here is a mental photograph of the sublime scene. THE RAMBLER.

As the description by Brother Root is *richer* than the cartoon itself, we copy the following from it:

Now, friend R., that is really too bad. I was prepared to accept the fact that the rest of you have had at different times various wheel hobbies; but to put A. I. Root among the crowd touches a tender spot. Never mind; I believe I would rather be pictured bouncing patents (that is, the "individual-right" department) than anywhere else.

J. H. and W. Z. H. seem to be pretty near the top of the heap, with the pollen theory and "new revolution" bee-hives.

The editor of the AMERICAN BEE JOURNAL is represented next as very industriously fighting the "Wiley lie," and we are glad he has finally got it under foot.

C. C. Miller is still enthusiastic on T-supers, even if there is not any honey to fill supers of any kind, during this poor season.

Doolittle is taking things very philosophically under the shade of a tree. Even if there is a swarm hanging on the limb overhead, he does not propose to disturb himself until he gets ready.

Just beneath friend Doolittle we see a colony fixed for hibernation. I guess it must be under a strawstack. Our good friend W. F. Clarke, however, does not seem quite satisfied to "let 'em hibernate" after nature's fashion, for he has removed his plug hat, and our artist has taken him in the act of poking his head into the strawstack, to see how things are going. Very likely it is all tranquil. The Rambler, tired out by the adventures of the day, is sleeping the sleep of the just. We know it is the Rambler himself, for he has put his hat on the foot of the bed, and deposited his documents inside of it.

The Weather and Crops.—Old earth seems to be crazy. While we in America and those in Central and Southern Europe have been experiencing such cold and wet weather, in Norway the heat has been very uncomfortable. At Nyborg it has been as high as 95°, Fahr., and at Christiana it has repeatedly been from 86° to 89° in the shade.

In Great Britain this month has been characterized by cold rains, which have not done so much damage as might naturally have been expected. Everything turns upon the continuance of the good weather to the close of the month.

In France July has proved an exceedingly unfortunate mouth. Rain and cold, with very little sun, have damaged the crop prospects in every direction. The critical periods of the blooming and earing were passed under the most favorable conditions; and the complaints, which are increasing on all sides, make a late and deficient harvest certain.

In Germany the weather has been generally cold and rainy, with an occasional day or two or warmth.

The month has not particularly advanced the prospect of the Austro-Hungarian crops.

Up to the 10th of the month the general Russian prospects have seldom if ever been so brilliant. Later in the month dangerously persistent rains, accompanied by hail, were common in Southern Russia.

The wheat crop in Sicily has proved very deficient, but an average was obtained in Apulia, and the Neapolitan districts. Sardinia has almost lost her entire crop. In upper Italy the harvest is expected to prove fairly good in quality, but will not reach an average in quantity.

For thirty years the rainfall in Spain has not been so great, or the mean temperature so low all over the kingdom as in June and July of this year. There was snow at Valladolid on the 16th, and from every direction came news of damage to crops from the unseasonable temperature and the raging gales.

Telegrams from Greece about the middle of the month report that the current crop was in imminent danger of being lost; the vines being dried up with the scorching wind.

The harvest anticipations in Prussia are quite discouraging. The rye-fields, from which the great masses of Germany derive their chief bread supply, have suffered to a great extent, and the continued inclemency of the weather has likewise done severe damage to the fields.

Postage on Seeds, etc.—The new law making the rate of postage for seeds, etc., one cent for each 2 ounces, took effect on July 24, 1888. The new section reads thus:

That hereafter the postage on seeds, cuttings, bulbs, roots, cions and plants shall be charged at the rate of one cent for each 2 ounces or fraction thereof, subject in all respects to the existing laws.

Growing the Linden.—There has been some inquiries about sowing basswood seed, and for general information we copy the following from the *Western Tree Planter* for this month:

Heretofore it has been nearly impossible to obtain basswood seedlings, and even now the supply is very limited. Wherever we have run across any one in the West who was growing them, we have found that they were highly pleased with their rapid growth and extreme hardiness.

When the roots once become established it will be found to be next to impossible to kill the tree so that it will not at least start up from the old root and make rapid growth. If one is cut off close to the ground one or more shoots will immediately start up and make a rapid growth. We have seen logs cut and piled up in a mill yard out of which young trees had started and made a growth of 3 feet in a season, their entire sustenance having been drawn from the wet log. The basswood is certainly a hard tree to kill, and we hope it will be universally tried and tested the coming season.

We have, during the past two years, been experimenting on basswood seeds, but were obliged to work entirely in the dark, as from no one could we learn what was necessary to make the seed start. We now have a barrel of seed mixed with damp sawdust, which has been kept moist, for over 15 months, has frozen and thawed, but not sprouted when we last examined it. The seed, even after this long time, is in perfect condition. We are now trying the scalding process, which is always used on locost seeds, and hope that by this method to attain our object. Mr. McKinstry, of Chapelle, Dak, says that he has tried to grow basswood seeds, but never succeeded; but that the following year or two, he had found on the ground sowed to basswood seeds, a few seedlings. This would go to show that the seeds required at least two seasons to cause germination. If any one else has made any experiments, let us hear the result so that all our readers may be benefited.

Honey Season in Vermont.—A correspondent writing from Brandon, Vt., says: The honey season in this section seems to be a very poor one; bees are doing but little swarming and storing of honey.

G. S. Brown, of Salisbury, reports the loss of 42 colonies by spring dwindling.

The following printed in a local paper at Vergennes, gives the situation there:

The honey product will fall far below the average this year, owing to the cold and wet weather early in the season. A prosperous bee-man in this place considers the falling off in the product of his 200 colonies will be two thirds. He should be able to market six tons of honey, but will be satisfied, from the present outlook, with two and one-half tons.

About the Chapman honey-plant our correspondent continues: "I have a small patch of the Chapman honey-plant, and I never noticed a plant which attracted the bees so much as did this globe thistle, during the height of its flowering season. There were two or three bees on every blossom about all the time. In raising it I have met with no difficulty from winter-killing or worms. If it had any other value than for honey, I should think bee-keepers would want ten acres apiece of it, as was expressed recently by one of your correspondents."

That Arkadelphia Bee-Suit.—In reference to the argument of Judge Williams before the Circuit Court, relative to the rights of bee keepers to pursue their usual vocation (that of honey production, by keeping bees), Mr. A. R. Nisbet, of Dobyville, Ark., writes as follows:

I wish all the members of the National Bee-Keepers' Union, and in fact all the bee-keepers of America, could have been with us during the fight at Arkadelphia on the 4th inst. It would have made them all feel good to have heard Judge S. W. Williams read section after section of law, in Mr. Clark's favor, showing that a man's right to hold property is paramount to all legislative power; and any attempt to take away such right is unconstitutional. He certainly made an able defense, proving to all present that he was equal to the task before him. The trial was well attended by citizens of this county, a great many of whom were in sympathy with Mr. Clark. After the debate was over, the court adjourned until Monday, Aug. 6, when Judge Hearn, who occupied the bench, declared that the ordinance was unconstitutional and void. The ordinance forbade any person or persons to keep, rear, or own bees in the city of Arkadelphia, after thirty days from the date of that ordinance. I understand that the city has taken an appeal to the Supreme Court.

We fully believe that bee-keepers have constitutional *rights* which they should defend—which they are in duty bound to defend—and cannot be just to themselves and their successors in the business if they do not defend them! For that reason a *test case* was made in Arkadelphia, and the most popular and influential lights in the legal profession were engaged to defend the case. These were Judge S. W. Williams, and Maj. Witherspoon, assisted by attorneys Murray and McMillan.

The case now goes to the Supreme Court of the State, on an appeal made by the city of Arkadelphia. The Supreme Court meets in Little Rock next October, and it will there be defended by Judge Williams.

From Across the Border.—Our Canadian friends often send us words of congratulation, but none have been more welcome than the following dated Aug. 16, 1888, from our friend Mr. S. T. Pettit, of Belmont, Ont., the ex-President of the Ontario Bee-Keepers' Association:

EDITOR OF THE AMERICAN BEE JOURNAL:—I cannot let another mail pass without writing to say that your many thousands of friends over here are very thankful to you for the plucky manner in which you so effectually brought down Prof. Wiley from his exalted position, in the top of that *official* apple tree.

The missiles you so persistently hurled at him were ugly, sharp and heavy; but they had the desired effect, and the Professor had to come down, though he lingered long.

How any sane mind could charge the AMERICAN BEE JOURNAL with taking sides with adulterators is a puzzle—but then it often does turn out that those who work the hardest for the general good, get blamed and falsely accused, even by those whose good they seek; but we have faith in God and the future, that *truth, righteous truth*, will come to the front, and that justice will be done. We must not forget that *Gleanings* also did valiantly for the truth.

BIOGRAPHICAL.

Hon. Jonathan W. Cattell.

From the Iowa *State Register* we copy the following biography of this distinguished citizen and life-long apiarist:

Jonathan Wright Cattell was born in the county of Fayette, Pennsylvania, June 25, 1820. He was consequently 67 years and 3 months old at the time of his death. He remained in Pennsylvania until he became of age, when he moved to Columbiana Co., Ohio. Here, in the year 1842, he was united in marriage with Miss Deborah Edyson, who, now, after 45 years of a very happy wedded life, is left to grieve over his departure. In 1846, he and Mrs. Cattell removed to the then territory of Iowa, settling in Springdale township, Cedar county. Six years later the people called upon him to take the clerkship of the District Court, a position he occupied for four years. In this office Mr. C. showed the mettle of which he was made, by the manner in which he protected the interests of the county.

Upon retiring from the clerk's office, Mr. Cattell was elected to the State Senate from the county of Cedar, just then made a Senatorial district by itself. Almost from the first Mr. C. was influential. Here, as everywhere, he was a worker. Both in committee and in the Senate, this trait was conspicuous; so that when he spoke, which was not often, his associates listened, for they soon found out that he had something to say worth listening to. Such characteristics readily suggested him as a proper person to place at the head of the Department of Finance. Accordingly he was elected Auditor of the State in 1858. The same painstaking fidelity to duty marked his distinguished career in this responsible office. He introduced improvements into the manner of conducting monetary transactions of the State, as well as in the system of book-keeping. So well was this done that there has been no substantial change in these particulars since.

During Mr. Cattell's incumbency, which covered nearly the entire period of the war, when the expenditures were very heavy, the work was greater than it had ever been before; and it was well done, honestly, systematically, cautiously done. He was three times elected, as no one had been before him, and was very strongly supported for a fourth term. Now, after a lapse of twenty years, no higher praise can be bestowed on a public officer than to say he does as well as did Auditor Cattell.

After his retirement from the auditorship, he remained a resident of Des Moines. The following fall (1865), to his great surprise, he was called from his retirement by the Republicans of Polk County, to go back to the Senate. Again in that body, he was a member of almost the ablest Senate in the State's history. In this body, and the one which followed, which comprised in its membership our present Governor and many other strong men, Mr. Cattell was a leader, not because he sought leadership, but because it gravitated to him. His long experience in public affairs, the accuracy and fullness of his information, and his candor and conscientiousness caused his judgment on any question to be looked upon with especial favor. While in the Senate, or shortly after, he became President of the State Insurance Company, which position he retained for some years, establishing firmly the company's business, and its reputation for fair dealing.

About five or six years ago, Mr. Cattell removed to a farm he owned in Delaware township, which has been his home since.

In 1885, he was again placed in charge of the office of Auditor of State. The ability with which he conducted its affairs under the very trying circumstances which surrounded his incumbency, his ready knowledge of the duties of the position after an absence of twenty years from public life, were a surprise to those not intimate with him. His rulings upon doubtful points in law were never influenced by those circumstances, or affected by any extraneous consideration. This office he left in January, 1886, since which time he has lived quietly upon his farm.

Being childless, Mr. and Mrs. Cattell adopted and reared two children; one, Mr. Wm. H. H. Cunningham, now a resident of the territory of New Mexico; the other, Mrs. Edward Grimes, who, with her husband and children, lived with her adopted parents.

To the afflicted wife and children will be given the heartfelt sympathy and kindred grief of the entire State.

When he last visited Chicago, as his custom was, he spent an hour at the BEE JOURNAL office, for he was an enthusiastic lover of bees and their management. We little thought then that it would be our last meeting in this life.

Mr. Cattell, by accident, fell from a wagon on Sept. 23, 1887, and the hind wheel ran over him, producing internal injuries, which proved fatal on the Sunday following at 7:30 a.m.

This was a serious accident, but no one thought that it would prove a fatal one until just before he died. Even the words from his beside were of a cheering nature, for the hope was generally entertained that he would survive and live many years, for he had a strong constitution.

In personal appearance, character and disposition he much resembled the late President Lincoln—plain, modest, unassuming, but of sterling worth and noble mind.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

The Traveled Bumble-Bee.

A bumble-bee, belted with brown and gold,
On a purple clover sat;
His whiskers were shaggy, his clothes were old,
And he wore a shabby hat;
But his song was loud, and his merry eye
Was full of laughter and fun,
As he watched the bob-o'-links flutter by,
And spread his wings in the sun.

A butterfly spangled with yellow and red,
Came flying along that way;
He had two little feathers on his head,
And his coat was Quaker gray;
He carried a parasol made of blue,
And wore a purple vest;
And seeing the bumble-bee, down he flew,
And lit on a daisy's crest.

Then from the grass by a mossy stone
A cricket and beetle came;
One with black garb, while the other shone
Like an opal's changing flame;
A swaying buttercup's golden bloom
Bent down with the beetle's weight,
And high on a timothy's rounded plume
The cricket chirruped elate.

The bumble-bee sang of distant lands
Where tropical rivers flow;
Of wide seas rolling up shining sands,
And mountains with crowns of snow;
Of great broad plains, with flower-gems bright,
Of forests, whose fragrant glooms
Showed crumbling ruins, ghostly and white,
Old forgotten nations' tombs.

Then wisely the beetle winked his eye;
The cricket grew staid and still,
The butterfly, in his great surprise,
Went sailing over the hill;
The beetle scrambled her eath his stone,
The cricket, he gave a hop,
And there the bumble-bee sat alone
On the purple clover top.

—*Dumb Animals.*

QUERIES & REPLIES.

Rendering Beeswax.

Written for the American Bee Journal

Query 570.—In rendering out the wax from old brood-combs, does it make the wax darker if it is boiled in a cast-iron kettle, than it would be if a tin or copper kettle was used?—Bee-Keeper.

Yes, a trifle.—MRS. L. HARRISON.

I do not know.—M. MAHIN.

I do not know.—EUGENE SECOR.

Yes, usually.—A. B. MASON.

I do not know.—J. M. HAMBAUGH.

Yes.—R. L. TAYLOR.

Yes, sir, much darker. Iron should never come in contact with hot wax.—JAMES HEDDON.

I think not, if the kettle is clean.—C. C. MILLER.

I think not. A sun wax-extractor is the proper thing for a bee-keeper to use.—G. M. DOOLITTLE.

Iron kettles will always turn the wax dark.—P. L. VIALLON.

If the iron kettle is clean and bright, it will make no difference; but we prefer copper or tin.—DADANT & SON.

I tried this once and nearly ruined the wax. Tin, copper or galvanized iron is the proper material, and much lighter to handle.—C. H. DIBBERN.

I do not think that it does, if care is taken in the boiling, and after straining. Some of the wax-extractors, however, are preferable.—J. E. POND.

I do not see why it should. But I should not wish to boil the wax much in any kettle.—A. J. COOK.

I prefer a cast-iron wash pot that has been long used, rather than tin; for as soon as the sheet-iron loses its flimsy tin covering, it discolors the wax badly. Copper or brass will do very well if the wax is not allowed to stand too long in such a vessel.—J. P. H. BROWN.

The *kettle* does not color the wax. Excessive heating colors it, and worse that that, ruins it. Heat it just enough to get the wax out, and no more; *boiling* does no good.—J. M. SHUCK.

Some grades and mixtures of cast-iron will darken wax every time, while other grades will have no effect on it. You will notice that some iron kettles will always rust after use, and put away for a few days, while others never rust. Copper is best, as you are sure of the results.—H. D. CUTTING.

I have tried both when I used to have no better way to render wax, and there is no difference if the cast-iron vessel is smooth and clean. If there is red rust adhering to the inside of the kettle, it is sure to color the wax. But since the improved solar wax-extractor has been described and given to the public by the "undersigned," there is no further need of mussing with kettles of any kind.—G. W. DEMAREE.

Yes. Take the tin or copper kettle every time. If the iron kettle is old, well-used and perfectly clean, it might be used, but the ordinary run of iron kettles will color the wax.—THE EDITOR.

The Sex of Bee-Eggs and How Produced.

Written for the American Bee Journal

Query 571.—1. What is the sex of an egg before the queen has become pregnant? 2. When the queen mates with the drone, does it change the sex of the egg? 3. How is the sex produced?—E.

All the unimpregnated eggs produce drones, or males.—G. M. DOOLITTLE.

1. Male. 2. Yes, to a great extent. 3. I do not know.—C. H. DIBBERN.

1. Male. 2. No. 3. Refer to some of our bee-books.—P. L. VIALLON.

1. Male. 2. No. 3. By fertilization when the egg passes by the spermatheca.—DADANT & SON.

1. Male. 2. No. 3. The egg in passing down the oviduct, is impregnated in passing the mouth of the spermatheca.—MRS. L. HARRISON.

1. Male. But "pregnant" is not the proper word. 2. No. 3. Eggs become female by receiving the male germ in the act of being laid.—M. MAHIN.

Please read the books; get Cook's "Manual," or Cheshire's "Bee-Keeping." They are up to the times on this subject eggs-actly.—J. M. SHUCK.

1. Male. 2. No. 3. At the will of the queen. She has the control, and can fertilize the egg or not, as she may desire.—H. D. CUTTING.

1. Male. 2. It makes it possible for the queen to lay male or female eggs at pleasure. 3. See scientific works on bees.—EUGENE SECOR.

1. Male. 2. No, not until the egg is brought into contact with the male sperm. 3. There is a difference of opinion. *Not* by difference in the size of the cell; most likely by the *volition* of the queen.—J. P. H. BROWN.

1. I hardly think there is any egg before the queen is pregnant. 2 and 3. You had better send 15 cents to Mr. Newman for the "Dzierzon Theory," and get a full answer to this and many other questions.—C. C. MILLER.

1. The egg of an unfertilized queen-bee produces a bee of the male sex. 2. The mating of the queen does not of itself change the sex of the bee. 3. The sex of a bee seems to depend upon whether or not the egg from which it was produced was impregnated by the seminal fluid deposited by the drone.—R. L. TAYLOR.

1. Always masculine. 2. It changes the sex of every egg which comes in contact with the drone sperm. 3. I believe that the sex is controlled by volition on the part of the queen.—JAMES HEDDON.

1. It has no sex. 2. No. 3. If the egg, as it passes by the spermatheca, is impregnated—that is, if it receives sperm cells—the result will be queen or worker, otherwise drone. See some good book on bees.—A. J. COOK.

1. Male. 2. No. 3. Dzierzon says that the egg is "fertilized by one of the spermatozoa from the seminal receptacle of a fertile queen entering it as the egg passes down the oviduct;" it becomes transformed into the germ of a worker bee or queen.—J. M. HAMBAUGH.

1. Male, in all cases whether pregnant or not. 2. It does not. 3. By being saturated with the contents of the spermatheca when deposited in the cell. The question is too big for this department. Read "Dzierzon's Theory," or some text book on bees.—J. E. POND.

1. Your query is misleading, because it infers that the queen *may* lay eggs before she is impregnated, which is not true if the queen is impregnated at all. All my experiments in this direction, and they have been many and carefully made, tend to show that the virgin queen lays eggs until her amatorial period has passed. If she passes this period without meeting the male, she is likely to lay male eggs only. 2. No; but many of us believe that her "mating" gives potency to her male issue, which is lacking in drones from unmated queens. 3. Nature has provided the how.—G. W. DEMAREE.

1. The question is not properly stated. It cannot be said that the eggs of a virgin queen have any sex, but they invariably produce drones. 2. No; but she is then enabled to produce male and female progeny at her pleasure. 3. The egg is impregnated in the act of being laid, when it receives the male germ in passing the spermatheca. The pamphlet called "Dzierzon's Theory," would be very interesting to you.—THE EDITOR.

CORRESPONDENCE.

SHIPPING HONEY.

Time of Capping Brood—Do Bees Hear?

Written for the American Bee Journal

BY G. M. DOOLITTLE.

Some seem to think that it is better, in putting up honey for shipment, to pack it in the case with the top-bar of the section downward, or in a reverse position from what it was in building, claiming that it will stand more rough treatment without breaking down if put up in that way, than it would if shipped with the same side up as it was on the hive. This I think is a mistake, and a neighbor of mine says "he knows it to be so," after having packed some that way, which was badly broken, and having none broken when packing it right side up, as he always did till he tried this way. To prove his position, he says:

Take a section and fill it with comb foundation, attaching it only at the top, allowing the room at the sides and bottom, which is necessary to prevent it from being bulged in drawing out; and after the foundation is thoroughly secure, stand the section in the position which it is to occupy on the hive, then suddenly sway it from side to side. In doing this you will see that the foundation will stand any amount of sudden jarring, and not break from the box; but turn the section over and the foundation will hardly support its own weight, let alone any jarring or rough treatment, without falling over and off, especially if the weather is a little cool."

Formerly I used to pack my honey with the top-bar of the section down, as I was so instructed in my first shipment; but of late years I pack it the same way that it was on the hive, and after carefully going over the results of the past, I find that not nearly so much has been broken since I adopted the latter method of packing, as was formerly. Of course it may have been handled more carefully of late by the railroad companies, but I think not. In any event, this is a matter worth careful consideration, and I bring it before the notice of our apiarists at this time, so that it may be in season for immediate action, for it will soon be time to send our honey to market, if we have any to send.

At What Age Is Brood Capped?

Picking up a paper not long since, I ran across an item setting forth the merits of the "bees-by-the-pound method." In it the party tells how they (the bees) were put in a hive on such a date, and ten days later they had enough brood capped over "to fill one whole frame." As the writer of the article uses the Langstroth frame, it is supposable that this was the frame meant, and if so, it would give about 7,000 as the number of cells of brood capped over.

There is a mistake here somewhere, or else I have been at fault all of my bee-keeping life, in my reckoning of the length of time that must elapse between the time the egg is laid by the queen, and the time the brood is capped over. Quinby stated in his "Mysteries of Bee-Keeping Explained," that the bee remained in the egg form three days, and in the larva form six days, covering a period of nine days from the laying of the egg by the queen to the time the larva was sealed over, this being accelerated a little by very warm weather, and retarded to some little extent by cool weather.

In all my observations along this line, I have found Quinby to be so nearly correct that I have taken him as authority on these points; therefore there must be a mistake somewhere, or else the queen in the case given above must have laid 7,000 eggs on the first day of her introduction with the bees to that hive. This is not at all probable, even if it were possible for a queen to reach that number of eggs in a single day; for no queen comes up to her maximum speed of egg laying the first day or first week after being placed in new quarters.

Some claim that the larva may be sealed over in five or six days from the time the egg is laid, but I cannot help thinking that such claims are made by those who have not thoroughly looked into this matter.

In many of the manipulations of the hive, a correct knowledge of this matter of brood-rearing is of much importance, and none ought to be satisfied with their "bee-education" till they have conducted experiments along these lines, so as to know for themselves.

Have Bees the Sense of Hearing?

Many seem to think that bees have the sense of hearing, but so far all of my experiments go to prove to the contrary. One says that he has known bees to run out of the hive to the queen when she had been removed with the surplus arrangement, or show their desire to get to her when she was on the frame he held in his hand, attributing such action of the bees to their hearing the queen call to them; but with me I see nothing in it but that the bees knew where the queen was by her scent.

One time, in hiving a swarm, the bees balled their queen, and in order to make a cage for her protection as I wished, she was hung in the shade on a limb of a tree not far off. Upon returning, after making the cage, I found that many of the bees had left the hive and clustered about the queen.

At that time I received the impression that the bees might have some sense of hearing, in order to get to their queen so quicky, but this thought was dispelled a little later in the season when, upon hiving two swarms together, I caged one of the queens for a little while, till I could dispose of her.

After disposing of her, I hung the empty cage in the shop several feet from the door, leaving the door open. After a little, the bees going with the double swarm became dissatisfied with the other queen, and balled her, when the usual excitement began which always exists in such cases. In a little while after, I went into the shop, when, to my surprise, I found a part of these bees on the cage that their queen had been in, thus showing that there was no hearing about the former proceedings of the others.

Borodino, N. Y.

SWARMING.

Bees do Select a Location before Swarming.

Written for the American Bee Journal

BY S. J. YOUNGMAN.

My experience of the last week will, I think, bear me out in saying that one of the mysteries of bees is solved, and the question, "Do bees find a location before swarming?" may most emphatically be answered in the affirmative. I will relate what came under my observation on Aug. 13 and 14, 1888:

My brother, and three other men, were at work about 100 rods west of my apiary in the edge of a forest at about 10 o'clock, a.m. They discovered bees in the top of a large ash-tree. I was called to see the bees, and to say what the prospects of saving them would be. The bees were about 50 feet from the ground, and were working very briskly. The sound of their humming could plainly be heard from the ground, at some distance from the tree. I proclaimed it a bee-tree, containing a large swarm, as there seemed to be thousands of bees at work. Arrangements were made to cut the tree the next day after dinner.

The men were at work near the tree, splitting rails, and about 11 o'clock one of the men observed a swarm of bees coming from towards my house near him. He instantly gave the alarm, and all the men gathered in time to see the bees fly to the ash-tree, and go into the same hole that the bees were issuing from the day before. I proceeded to cut the tree, as arranged, and found them to consist of a medium sized swarm, with a young unmated queen, and I succeeded in successfully transferring them to a Langstroth hive.

No honey was found in the tree, but it showed unmistakable signs of having been occupied by bees before, as there were chunks of propolis and fragments of comb adhering to the sides of the hollow.

The way I view this is, that when the bees were first discovered on Aug. 13, a very large force were cleaning out and preparing the hollow for occupation the next day; and had the tree been cut on the morning of Aug. 14, no bees would have been found; but on that day the bees occupied the tree in full force.

I think that this is the strongest evidence that bees do select a home in advance of their swarming, and prefer a tree that has been occupied by bees before, or at least such a place is not distasteful to them.

Cato, Mich., Aug. 19, 1888.

SULPHURIC ACID.

Its Use in Germany to Cure Foul Brood.

Written for the American Bee Journal
BY GERD WENDELKEN.

On page 345 is an article written by Wm. Klintworth, about bee-keeping in Germany, and how foul brood was cured there about 40 years ago. He mentions my name as one of those who cured the disease by the use of feeding sulphuric acid, but he does not tell how and in what proportion it was fed. I will therefore try to give briefly some information about it.

When in Germany, as Mr. Klintworth said, 40 years ago I cured foul brood with sulphuric acid, to my full satisfaction, and three other cases are known to me that were cured in the same way. Our fathers did not understand the nature of foul brood, but some understood how to cure the same.

Sulphuric acid has powerful destructive properties, and must always be handled with the greatest caution. If mixed with water, at the moment of mixture great heat is given out, and therefore the dilution should be performed by very gradually adding the acid to the water. The dilution should not be kept in tin vessels, but in glass bottles.

When fed with honey or syrup to foul-broody bees, it will kill the foul brood germs; but it has to be diluted to such an extent so as not to kill the bees and brood—1-700 or 1-800 part will do.

For an experiment in the spring of 1887, I fed sulphuric acid to my bees in the following way: I diluted one ounce of acid in one quart of water; then mixed this with syrup, and fed it to one colony, beginning with small, weak doses, and increasing by degrees until the bees refused to take it. Every night from March 15 to April 20 I fed ½ a pint of syrup with 2½ tea-spoonfuls of diluted acid. I found that this was not injurious to the health of the queen, bees or brood. At the end of that time I fed the rest of the medicated syrup to 10 or 12 other colonies. I have been told that the acid would kill bees and brood, but it does not, and cannot be done, because the bees do not take it when too strong.

If foul brood should ever get into my bee-yard, I would not be much alarmed. I would simply feed the bees regularly every night as described until well; and I would expect them to be all right in about two weeks. I know that what has been done can be done again.

It is best not to feed such a quantity with the acid mixed, as to be stored for winter use. There is no sure way to cure the disease without feeding the remedy to the bees, but it is a great mistake to feed or treat only such colonies as have already dead or diseased brood. Every colony must be fed and disinfected, because some seemingly healthy colonies may have the germs of foul brood in great numbers in the hives; old bees have them in their stomachs, and therefore they must be fed. The young larvæ must be fed in the cells, which can be best done and prepared by the nurse-bees.

Some prominent bee-keepers have recommended spraying the larvæ with the remedy, but the nurse-bees know better how to prepare the doses, and how much to feed the larvæ.

Some have also recommended burning the diseased colonies, but this is another mistake, I think. It does no good, for soon after some other colonies will be diseased, because the germs had been there before.

Marietta, O., Aug. 20, 1888.

PLEASANTRIES.

Review of the "Scientific Pleasantries"—Experiments.

Written for the American Bee Journal
BY G. W. DEMAREE.

A great many bee-keepers believe that Prof. Wiley is a sinner above other scientists in the perpetration of "scientific pleasantries," and doubtless some of the most credulous believe that the Professor laid "awake o' nights" in his scientific musings and searchings after the most effective "pleasantry" to hurl at bee-culture with deadly effect. No greater mistake than this could be made. Scientists do not do things in that way. No scientist expects anybody to credit his "pleasantries." In fact, the scientist of the evolution school is *never certain of anything* under the sun, nor above the sun.

Of course the frail, waxen fabric which we call honey-comb, with its dividing walls too frail to bear the touch of the most skilled finger of a life-trained artist, or any machinery known to the arts in realms sublunary, has not been wrought by machinery as yet, but when "Evolution" has had time to sweep the circle with his magic wand, it will be said, "Let there be machinery wrought honey-comb," and the thing will be "done." This is all the scientist knows about it, and he is not certain of that. It is to be hoped that the brethren will let up on Prof. Wiley for a spell, and turn their attention to some other scientific pleasantries. Our bee-literature is chock-full of them.

Honey as "Digested Nectar."

I have read, and it comes from high authority, that "honey is digested nectar." This is a "scientific pleasantry," stupendous in its magnitude and bearings, and yet we have heard no objections to it. It is by no means impossible for a pound weight of bees of the proper age to handle 15 pounds of crude nectar in eight hours. I think I have seen it done when the black locust was at its best, and the weather was exactly right. In this case a pound weight of live bees would have to furnish by ordinary secretion, gastric juice in sufficient quantity to digest 15 pounds of crude nectar in eight hours. No uncrazed thinker on the earth possessing brains enough to frame a thought, could believe such an impossibility. Notwithstanding, this "scientific pleasantry" has been handed around to the injury of the reputation of honey as a delicious food for mankind.

Not long since a pedagogue scientist in a lecture delivered in our town, referred to this matter, and asserted that honey was a "disgusting digested stuff disgorged from the stomachs of the bee," and therefore unfit for food for mankind. If it was true that honey is "digested nectar," that fact would take all the romance out of the word "honey," heretofore the synonym of all sweetness, and leave the article itself truly disgusting. But nothing never was further from the truth. Pure honey is nectar of flowers gathered by bees and reduced to proper consistency by the internal heat of the bee-hive. That's the whole of it.

Holding the Breath to Prevent Stings.

Some scientist has got off a "pleasantry" to the effect that a bee cannot sting a person "while he holds his breath." In fact one would take this for a "practical joke," to provoke a laugh at the expense of the "dupes" who would be credulous enough to try the experiment. A little practical good-sense ought to teach anybody better sense than these scientists seem to possess I have felt the sting of a bee through a thick buckskin glove.

Well, the other day I tried the experiment to answer in a practical way, the query, "Can a bee sting a man while he holds his breath?" You see I am so indifferent about a bee-sting that any practical joker would fail when practicing on me. I selected a cross hybrid colony, and without the use of smoke, I turned up the quilt and rapped on the top-bars of the frames; this brought the little "war-dogs" bristling as they came. I held my breath firmly and passed my left hand with a rather quick motion just above the top-bars of the frames, and received a red hot thrust in the end of my middle finger, which drew blood in sight. I raised no question. No "umpire" was needed; the thing was well and fairly done.

Most people would have been fully satisfied with the experiment, but I did not care a great deal for one sting, and was willing to risk another. So I repeated the motion, with the right hand this time, and in a twinkle I was philosophically looking at a bee twirling round and round in its economical way of parting with as small a portion of its "inward parts" as possible when leaving its sting deeply set into the flesh of my third finger. That was the "best two out of three;" quoth I, "what fools these mortals be!"

I wish I had the time at my command to pursue this subject further. It is a wonderful subject. "Scientific pleasantries" are to be found in every department of our bee-literature, from the "business end of the bee" to the mighty claims of the "patent bee-gum man." But I cannot spare the time now. In fact I am really low down as pertains to the future propects of bee-culture in Kentucky. The surplus honey crop has been a failure, or nearly

so, for the past three years, owing to the decade of drouth years which has nearly destroyed the white clover. Hope revived, however, in May and June, as the young white clover looked very fine at that time, but the great heated spell of the past three weeks, without rainfall, has killed the young clover to an alarming extent. It is not so hot now, but the rain tarries, and hope is deferred.

Christiansburg, Ky.

AUTUMN BLOOM.

Golden-rod and Aster Honey, Fall Management, etc.

Written for the New England Homestead

BY SAMUEL CUSHMAN.

Most colonies in our apiary are so contracted that there is little room for honey in the brood-combs, and it will not be extracted, but as soon as the boxes (or sections) are removed, a sufficient amount of sealed stores will be given from other hives. One colony in the home apiary has been employed for a month in storing syrup in empty brood-combs, which, as soon as they are filled and sealed, are removed and replaced by empty combs. These are to be carried to an out apiary, where we make short stops and cannot feed in the usual way. We also use them late, if needed, after it is too cold to feed syrup.

To secure a large crop of fall honey, Italian bees or the yellow races are the most suitable, as they work later in the season, and with more energy than black bees. To rouse them from the winter quiet—a state they are then approaching—part or all of the brood-combs are removed, and sheets of foundation put in their places. The desire for a winter's supply of honey, and the work on the foundation stimulates the bees' energies to the utmost, and as fast as the combs are drawn out and filled, they may be extracted and returned and again extracted as often as filled. By removing the honey often, the bees are kept at work as long as the flow continues. In this way 100 pounds per colony have been obtained where but a few hives are kept. As this draws on the vitality of a colony, and calls forth energy that would have been available in the spring, it may be wise to strengthen such colonies before wintering, unless they have an abundance of young bees.

In this location, this honey, as a rule, is not obtained except in brood-combs, and as it is excellent for winter stores, is allowed to remain. My Cook apiary is where there is much runout land grown up to weeds and brush. Here golden-rod and asters are very plenty. Being on a hill where it is rather bleak, a board fence was built on all sides; with this protection they venture out many times, when if the hives were exposed to the strong wind they would remain inside. It is also high and dry, and frosts hold off until late. Here bees have never failed to get enough late honey for winter stores.

At the beginning of the flow last fall, the colonies were almost without stores but very populous. All brood-combs not containing brood were removed, leaving from four to six combs two thirds full of brood, nearly all of which was capped. The vacant space in the brood chambers was filled with dummies and surplus sections containing drawn out combs placed above, the hive covered with chaff cushions, and the entrance made rather small. After a hard frost I examined them and found that nearly all had from 12 to 20 pounds of honey in sections, two-thirds of which were nicely sealed, the remainder uncapped, and but partly filled. The brood-combs were solid with honey, with the exception of a space for bees to cluster in the center combs. The honey from golden-rod coming first, most of it was stored below in the room made by the fast hatching brood. The flow from asters came after, and as the space below was mostly filled, much was stored above.

The honey in some sections nearest to the center of the cluster was two-thirds golden-rod with aster honey about the edges, and was thick, well filled and finished; that further away was clear aster honey, nicely finished, and very clear and handsome; that furthest from the cluster was poorly filled, unsealed and thin. The wax cappings at this time are quite yellow from the pollen in the wax. Had I given less room in the brood-nest, and frequent attention, I should have secured less honey below and more above, but the colonies would have needed more stores for winter.

This result shows that the obstacles in the way of producing this honey in the comb may be overcome. It also shows what is possible in a better season, or in a still better locality. Although less in amount will be taken in boxes than in the extracted form, it will be worth more money.

If but one or two brood-frames of foundation are allowed below, and a few sections of drawn out comb above, and as fast as finished are removed and replaced by others, a large number may be secured. There is little danger of the queen laying in sections at this season. The proper amount of space below and above to get the best work and all the pollen below instead of above in boxes, will be learned by experience. At this season drawn-out combs should always be used instead of foundation in the sections.

A late-reared queen will have considerable brood late in the season, at a time when there is usually little or none. This is a great help to force the honey above, and if the bees of another colony are united to these, success will depend only upon the weather and the secretion of nectar. When the summer flow has yielded no surplus, I believe it will pay to secure this late crop in comb, even if all colonies have to be given sugar stores for winter. The latter should be stored and sealed in warm weather, and be ready to give when the other is removed. Instead of following this plan extensively, it may be best, in your locality, to try it the first season with but 1 or 2 colonies.

Pawtucket, R. I.

CANADA.

Report of the Brant Bee-Keepers' Association.

Written for the American Bee Journal

BY R. F. HOLTERMANN.

The Brant Bee Keepers' Association held their quarterly meeting at the Court House in Brantford, Ont., commencing at 2 p.m., on Aug. 11, 1888. In the absence of the President and Vice-President, Mr. T. Birkett, of Brantford, was elected to occupy the chair.

Reports of the Season of 1888.

The season's reports were then given as follows:

C. McNally, of Simcoe, said that fruit-bloom had yielded fairly well. They had but little clover, owing to last year's drouth. Linden yielded but little. They have a great deal of buckwheat about them, and he expected quite a number of pounds of surplus from that source. It was yielding well at present, one colony having filled, without capping, an 8-frame Langstroth super in 1½ days. He had nearly doubled his colonies.

J. R. Howell reported up to the close of the linden about the same as had Mr. McNally; but he secured some linden honey. The Chapman honey-plant came into blossom, and the bees worked very well on it; from the colony that appeared to have the most honey from it he extracted, and had a sample of the honey present, which was first-class. His increase was 50 per cent. The Secretary reported that he had secured about 5 pounds per colony up to linden bloom, and had now from thistle, clover and linden, an average yield of about 20 pounds per colony, or 1,000 pounds; and he expected enough for winter. His increase was 10 per cent., and besides, he had formed nuclei and reared about 70 queens.

T. Birkett reported that his bees had done but little until within the last three weeks. He had secured from about 67 colonies, spring count, about 1,000 pounds of honey, besides comb honey, and plenty to winter them on. His increase was about 30 per cent. He had allowed several swarms to go together, and these were the colonies which gave him the increase.

C. McAllister said that he had put 20 colonies into winter quarters last winter, some of them being light. They had increased from 8 colonies. All but one colony wintered; 4 more were lost by spring dwindling, and the remainder had done well lately, but not before.

Feeding Bees for Winter.

W. Phelps, of Mt. Pleasant, asked: "Does it pay to feed for winter?" C. McNally said "No; I fed 64 colonies $125 worth of sugar one fall. I feed some every year. Bees should be fed early."

The Secretary said that he did not want to feed, and he keeps two full combs for every hive, which, on an average, will be enough for winter stores, besides what is already in the brood-chamber. He finds that bees

gain but little more than half in weight compared with the heavy fed ones. He feeds rapidly, and if he must feed, he would feed sugar syrup in preference to honey. While he strongly condemned feeding at all, if bees had not enough stores for winter, he fed sugar syrup.

"Do you use feeders?" was asked. One bee-keeper fed by pouring the feed in the back of the hive; others fed in pans with floats of some kind.

It was then moved, and after discussion, carried, that the North American Bee Keepers' Society be invited to hold their annual meeting in 1889, at Brantford, Ont.; promising the Society a free hall to meet in, reduced hotel rates, and that this association would make every effort to make the meeting a pleasant one.

Difference in Worker-Bees' Energy.

J. R. Howell asked what could account for the difference in energy of worker-bees. C. McNally said that bee-keepers were running too much to color in bees. He found of his best looking bees the poorest workers. The writer thought there was a tendency in this direction; he did not mind a little black blood in the bees, in fact he preferred it, but wanted only a very little.

The Perforated Queen-Excluders.

A discussion took place upon the necessity of perforated queen-excluders in producing extracted honey. Messrs. Dickie, Birkett, Howell and Holtermann used them and liked them. Some complained now and then that a queen passed through. C. Culver, of Bloomsburg, pointed out that it was important to have a bee space on both sides of the board.

The convention then adjourned to meet in December.

Brantford, Ont.

FOUL BROOD.

Theories of the First Cause of the Disease.

Written for the American Bee Journal

BY JAMES A. GREEN.

As to what may be the first cause of foul brood I believe no theory has as yet been advanced that will satisfactorily cover all cases.

The theory of Cheshire, that it is caused by bacilli, or minute vegetable organisms, is the one generally held by those who have studied the disease. If we accept this, we must suppose that all cases of foul brood are traceable to infection from some first case or cases. Bacilli can no more grow without seeds than corn or wheat. It seems somewhat difficult to account for all cases on this supposition, although if Cheshire's theory be true, that the bacilli or spores may be deposited by the bees from infected hives on the blossoms they visit, to cling to and be carried away by other bees that visit the same flowers, we can easily see that the disease might be quickly spread over wide reaches of territory. The intervening links might then be destroyed in some way, leaving cases of foul brood apparently many miles away from any source of contagion. Even without this way of spreading, the disease may be carried far and fast by swarms escaping to the woods, and by robbing.

The credence given to Cheshire's conclusions is no doubt largely because they are in accord with what is known as the "germ theory" of disease. This is very captivating, very plausible, and a very convenient pair of shoulders on which to lay the burden of most of the disease that afflict the inhabitants of this mundane sphere.

It is not my intention to attack this theory. Apparently it rests on too firm a foundation to be overthrown. The whisper, though, is not unheard in scientific circles, that over zealous investigators have sometimes mistaken effect for cause, in concluding that because bacilli accompany a disease they necessarily produce the disease.

There are objections to the bacillus theory in the case of foul brood. One is, that Cheshire declared himself unable to detect either bacilli or spores in honey, and gave it as his opinion that the disease was never, or at least but very seldom, transmitted by means of honey. So far as I know, no microscopist has had any better success in detecting either bacilli or spores in honey. Yet the almost uniform testimony of all who have had practical experience with it is, that it is through the medium of the honey that it is most frequently and surely transmitted. The most practical and successful methods of cure are based on this assumption, while those which ignore it have in practice proven uncertain and unreliable.

Starvation as a Foul Brood Cure.

Cheshire declares, furthermore, that foul brood is not simply a disease of the brood, but that *bacillus alvei* affects the mature bees, both workers and queen. If so, they are very easily disposed of, for I have repeatedly cured the worst cases of foul brood by simply confining the bees without food for 48 hours, then putting them into a clean hive, and still more simply by brushing them from their infected combs into a clean hive, where they were obliged to build comb before brood could be reared.

The plain inference is, that the contagion, whatever its nature, is contained in the honey, and that it is destroyed when the honey is digested. Possibly the digestion of the last particle of honey does away with the bacilli so numerous in the vitals of bees and queen; but many will be inclined to doubt.

All attempts to get rid of foul brood without boiling, or equivalent treatment for everything except the bees, have proven tedious, uncertain and unsafe. By "equivalent treatment," I mean a thorough washing or admixture with carbolic or salicylic acid. To spray the outside of an infected comb is useless. While it is possible that the fumes of sulphur may be a sufficient disinfectant—though I do not believe it—the process must be more thorough than that recommended on page 539. To put infected hives and frames out of doors in the summer—exposed to the bees—as there recommended, and then depend upon scraping and sulphuring, is simply to invite destruction.

The correspondent on page 538, has very evidently had little experience with foul brood, or he would not venture so wild an opinion as, that it is caused by the larva getting reversed in the cell, and that the puncture in the cap of the cell is made by its "sharp end" in the effort to get out.

The fact is, that foul brood nearly always attacks the larva before it is old enough to be sealed up. Even when it is attacked after it is sealed, the cap is by no means invariably punctured nor perceptibly sunken.

Ropyness the Test of Foul Brood.

The best test of foul brood is the ropy, tenacious, *slightly* elastic condition that the diseased larva assumes. Do not expect, though, that it will "snap back into the cell like a piece of India rubber when you pull it out with a stick," as some have said. I was not in favor of this test once, simply because too much stress was laid on the elasticity of the diseased matter. Remembering that its elasticity is but slight, this feature becomes our best criterion.

Dayton, Ills.

FINDING HONEY.

Uncle True's Experience in Getting it Out of a Chimney.

Written for the Boston Traveller

BY H. P. BARNARD.

Uncle Joshua True and Solomon Baskins lived in a double house. It was Sunday, while the Baskins and Trues had gone to meeting, leaving Joshua at home alone.

Suddenly, something like a small black cloud came between him and the sun; Uncle True looked up and saw that it was a swarm of bees hovering directly over his bald pate, which he covered with both hands and fled to the house. Like a living ball they hung suspended a moment, then swept toward the house-top, alighting upon an unused chimney. Uncle True ventured out and eyed them wistfully.

"Why couldn't ye come a week day?" he growled. "Then I could a got Collins—he's a great bee-man—and we'd put ye into that empty hive. It's a pity it's the Sabbath; a clean ten dollars as good as throwed away."

But soon his face brightened. There was the skylight, he could put the hive out of that, perhaps they would take a notion to it.

A moment later Uncle True was puffing up the attic stairs. The nerves in his crown crawled, as he remembered how it had seemed to attract the insects; still he ventured a leg out upon the long sloping roof, and gently proffered a home to the rovers, muttering:

"There, ye can't do better'n that!"

They rose in a body, and with them Uncle True's hope; only to fall again, as they at their queen's behest went down into the Baskins' chimney!

"Pesky things!" he ejaculated. As the church-goers were returning he withdrew the hive, closed the skylight with a bang, and then appeared below just as Aunt True bustled in.

"Feel better, Joshua? Such a sermon as we had—you don't know what you missed."

"I'm alluz missing something!" Uncle True answered, crossly.

"Why, what's the matter?"

Then he told her how the bees had come, and "every soul of 'em gone into Baskin's west chimbly."

Aunt True sat right down, bonnet in hand, while Joshua enlarged upon the subject. He said he'd a given anything if the bees had come to him; he would have planted buckwheat for them, and in the fall smoked them out, and gathered the honey.

Suddenly Aunt True spoke. "I don't care if them bees be in Baskin's chimbly! You found them, and you've the first right; besides it opens in our cellar, and that gives us some title to them."

"That's so!" cried Uncle True. "Of course they belong to me—no question but the law'd decide that! But Baskin's might not think so!"

"I don't s'pose he'd divide," said Aunt True, "them Baskins is bound to get all there is, every time! I shouldn't mention the bees; maybe they wouldn't find it out all summer."

"Fact is, it's alluz best to manage folks quietly," chimed in Uncle True.

Little did either dream what a part they would have to act; or how often be forced into untruths.

Never were there such active, hot-tempered insects—the young Baskinses were continually getting stung by what they called hornets.

"It is a powerful year for 'em; I've got stung myself?" said Uncle True.

"Must be there's a nest under the eaves," she said, as she applied saleratus water.

And Uncle True pretended to hunt for it. Then, when the garden blossomed to buckwheat alone, and Baskins was amazed, Uncle True explaining the unusual spectacle by saying he "liked to see it blow!"

Later in the summer Joshua could not forbear an inspection of the chimney, so he took cement with him that he might be able to say to the Baskinses that he was mending the chimbly!"

The buckwheat blossomed, and its sweetness was culled by the busy insects. "Reg'lar workers, they are," Uncle True often said, gleefully. "That chimbly must be filling up fast. Things have gone along nicely. The Baskinses don't mistrust; just as soon as they start, we'll get the honey."

The buckwheat faded.

"When are the Baskinses going to the beach?" each asked the other.

The summer went, but alas, the Baskinses stayed; they "couldn't afford the seashore" that year! It began to look as if Uncle True would never get a chance at the colony. Fortunately, the fall was unusually long and warm, and the bees kept on working clear up to Thanksgiving. On the morning of that day, Mr. Baskins started for his native town with his family.

"Calc'late to make a long stop, neighbor?" Uncle True spoke carelessly as possible.

Mrs. Baskins said, "Pa wouldn't hear to their coming home till the next afternoon."

"They've gone at last—coast's clear!"

Even that fact did not open the way for an immediate attack upon the bees. The Trues waited, fearing the Baskinses might return for some forgotten article; then company came and stayed all day. "They have spiled our best chance!" Uncle True said dolefully.

"Never mind," said Aunt True, "we'll get everything ready for an early start to-morrow."

The Trues retired long before the usual time, and slept too soundly—for they did not hear the Baskinses return, about midnight. As Mrs. Baskins said "Pa's too full to accommodate us!" which might have been taken literally after "Pa's" hearty dinner, but what she meant was the ancestral bed-rooms were filled with relatives from a distance. As these were from a cyclone district, the young Baskinses heard a tale of horror that sank deep into their minds.

"No part of our country is safe these days," said Baskins.

"Out our way we're prepared," said the cyclone representative: "We have a cave in the cellar to run into; let the house sail off then, we're safe!"

"The wind's going to sweep us yet," said Baskins, rolling his big eyes prophetically; "what's to hinder? folks is cutting off trees, and leveling the hills as fast as they can. Some day they'll wake up and find themselves to the mercy o' the elements.

Under the circumstances, it is not surprising that the children and Mrs. Baskins dreamed of cyclones.

The Trues began operations at daybreak. A smothered chip fire was lighted in the opening of the chimney to smother out the bees.

"I don't calc'late they're very far down," said Uncle True; "guess I can reach them with a long-handled spoon."

Then he equipped himself in a hat draped with musquito netting to his waist, a long iron spoon and preserving kettle, and started skyward. Mrs. True took a favorable sight-seeing position in the back-yard.

Uncle True peered cautiously into the chimney.

"It's jam full 'o suthi'," he told Aunt True; "must be a powerful big swarm."

"Sure, they are smoked out enough, Joshuay?"

"Oh, yes, they're quiet; none o' them aint going out or coming in. There's a leetle buzzing, but that don't 'mount to nothing—no more'n a hen's flutterin' when her head's chopped off!"

While doing two things at once—speculating how much sweetness such a colony could procure, and thrusting in the spoon—Uncle True's elbow started a brick down the chimney. In an instant that "powerful swarm" darted up right into Uncle True's face, as he peeped intently over. With a howl of fright, he dropped the kettle. It rolled and bumped the length of the roof, then bounded off, striking the ground just where Aunt True stood a moment before.

This woke the Baskinses like an electric shock. They sat up in bed bewildered and frightened. Then, hearing the clatter of Uncle True's boots down the slope of the roof, Baskins said:

"It's probably a cyclone; we haven't had the equinoctial yet! The only thing that'll save us is to get out of the house and away from the trees!"

As the Baskinses fled out of the back door, Uncle True, wishing only to distance the bees, suddenly dropped among them, in their back yard, and rolled over groaning. Perhaps they took him for some strange being, tipped off another planet by a freak of the cyclone; at any rate they did not recognize him in his "bee-protector," for as the figure flopped its hands wildly skyward, and gasped for speech, Baskins shouted:

"Run, all on ye? Make for the open field!"

"Run" they did, fast and far, screaming till the neighborhood was aroused.

As the Baskinses crowded through the gate that opened into a large field, the elder Baskins looked back to see if the house had gone over. To his surprise, it remained apparently firm, not even the chimneys had started. He noted also how still the trees were, and what a perfect morning it was.

"Surely, this is no cyclone," he said, and at once ordered a halt, while he went back to reconnoitre. His attention was at once called to the groans of Uncle True, who was being helped over the fence by his wife. The former, seeing through his thick veil that it was Mr. Baskins, called out:

"I've had a terrible fall, neighbor Raskins; I think I've broke my back. I'll never fix a chimney again!" With that he was ushered into the house, and the door slammed behind him.

As Mr. Baskins gazed upon the roof of the house, and saw many bees flying angrily around the chimney, the absence of several bricks, a long spoon and iron kettle on the ground, a dilapidated patch of buckwheat in his neighbor's yard, the truth gradually dawned upon him.

"Come back!" he shouted to his family; "it's no cyclone—only one of old True's experiments."

As Joshua True sat bolstered up in his armchair before the fire, it seemed as if every one who passed the house looked at the chimney and smiled. Even the boys paused on their way to school, explaining to some new-comer: "O d True's home run down the roof." Bert also, although innocent, was punished for the sins of his parents, for his playmates called him "Honey."

This was more than Uncle True could bear: he decided to move away, and start anew among strangers. It was some days before his wife could be persuaded to go, but at last she said:

"We'll go, Joshuay, but," shaking her long forefinger at him, which meant she was in earnest, "don't you let me hear anything more about catching a swarm of bees."

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Sept. 6.—Bees and Poultry, at New Brunswick, Ind. Ora Knowlton, Sec., New Brunswick, Ind.

Sept. 8.—Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.

Oct. 3-5.—North American, at Columbus, O. W. Z. Hutchinson, Sec., Flint, Mich.

Dec. —.—Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Limit Commission Men.—B. H. Standish, Evansville, Wis., on Aug. 22, 1888, writes thus:

I wish to caution beginners and all others who need it, to fix the price at which honey may be sold, when sending to commission men. If this price were fixed by supply and demand, it would now be quoted at 25 cents instead of 16 cents per pound. Who has produced honey at a cost less than 25 cents per pound this year? I think no one, and it ought to be quoted at that, and will be if producers limit salesmen to that price. It is an injustice to every brother bee-keeper, when one puts honey on the market which may be sold at half the cost of production.

Large Honey-Flow—Pure Italians.—R. H. Campbell, Madison, Ga., on Aug. 18, 1888, writes:

I have in my apiary four or five different kinds of hives, and among them 32 Heddon hives. I like them, and I believe that more extracted honey can be procured with them than with any other. Besides, they are light and nice to handle. We are having the largest flow of honey for August that I have ever seen; my hives are all loaded down. The honey is of fine flavor, and perfectly white, being gathered from cotton and field-peas. I have now 90 strong colonies ready for winter quarters. In this locality and county, hybrid and black bees have swarmed continually, while my Italians have swarmed but little, and had their hives full of honey. The pure Italians are the best bees of all. I have tried all known races, and I now have the Italians, which I find to be superior to any.

Bees Not Busy.—Mr. D. J. Winney, Schuylerville, N. Y., on Aug. 16, 1888, writes:

I notice by reports from various parts of the country, that in general bee-keeping will not be profitable this year. This section is no exception to that rule. I wintered, or began the past winter, with 19 colonies, 9 colonies in the cellar, and 10 in a bee-house, with chaff cushions on top of the bees. I lost 3 colonies, 2 in the cellar and 1 in the bee-house. The causes were diarrhea and starvation. Two colonies were robbed after I put them out, that left 14, which I have built up to 27, but they are lying around with nothing to do. I do not think that I will get over 100 pounds of surplus honey, unless it is from buckwheat, and of that I never have had much. Some of my bees have taken honey out of the sections that were not sealed, so I infer that they hardly get enough for present use, which is rather discouraging.

The Yield from Basswood, etc.—B. D. Scott, Ovid Centre, N. Y., on Aug. 17, 1888, writes:

I commenced the season with 56 colonies, increased them to 90, and have taken 3,600 pounds of extracted, and 300 pounds of comb honey in one-pound sections. Basswood yielded but little honey, but lasted well. The first blossoms opened on June 27, and I found fresh ones July 29. I have one colony on the scales, and the best day's work on basswood was 17½ pounds; on July 29 it gained 13½ pounds on clover and basswood mixed. But little honey is the general complaint among bee-keepers.

How to Hold the Breath.—L. D. Cheasbro, Conway, Iowa, on Aug. 15, 1888, says:

I notice by the BEE JOURNAL for to-day, that J. H. Amos has been trying the experiment of holding his breath to prevent bees from stinging. He says that it will not prevent it, but I believe it will, by half filling the lungs, and then holding the breath. The first time I filled my lungs to the full capacity, and could not help but let a very little escape, and was stung. But after that I never received a sting.

Bees Breeding Heavily, etc.—S. Shoup, Coloma, Mich., on Aug. 20, 1888, writes:

The honey crop in this part of the State, so far as I can learn, will be very light—may average 10 pounds per colony. My bees are breeding heavily now, and are storing some honey from buckwheat; but the weather continues dry, and I fear it will hurt young white clover for another season. I think that bees are generally in better condition for winter than last year at this time, and if we get rain to keep up fall bloom, some may get a little surplus.

No Rain for Six Weeks.—I. R. Good, Nappanee, Ind., on Aug. 20, 1888, says:

This has been the poorest season for honey and for queen-rearing that we have had since I have kept bees. There will be no surplus secured in this section. Six weeks ago last night we had our last rain, and everything is drying up. The prospects for a fall flow of honey are poor. Many colonies are almost in a starving condition.

One-Third of a Crop—Albino Bees.—H. P. Deahl, Berryville, Va., on Aug. 17, 1888, says:

The honey-crop here this season will be about one-third of a crop. Last spring I had 200 colonies, and obtained 5,000 lbs. of honey in one pound sections. I expected to get about 16,000 pounds. I will begin the winter with about 250 colonies. My Albino bees stored most of the honey.

Very Wet Weather.—Mr. Ezra J. Cronkleton, Dunlap, Iowa, on Aug. 14, 1888, says:

The weather has been very wet here for the last eight days, and it is raining now. If we can get a few days of fine weather, it will make a big difference in our fall crop of honey. Corn is being injured very much. Oats is half a crop.

Figwort, Sweet Clover and Culver's Physic.—L. E. Waterman, of Moline, Ills., on Aug. 19, 1888, writes thus about these plants for honey production:

I send two plants for name, besides which there is little attraction for the bees except sweet clover. I think it will pay any bee-keeper to plant sweet clover. I have seen C. H. Dibbern's three-acre patch since it bloomed, and I am satisfied that it pays. In fact, I think he is the only person getting any amount of honey in this locality, during the sweet clover period. I think that if the old stalks were taken off now, and the ground well harrowed, that it would bloom again next season.

[The plant with the long racemes of flowers is *Leptandra Virginica*, or Culver's physic. The other is figwort, or Simpson's honey-plant. Both are excellent honey-producers.—ED.]

Honey Crop of New York.—R. Bacon, Verona, N. Y., on Aug. 13, 1888, says:

The honey crop in this part of the country is very light, and from what I can gather, this State will not be able to put as much honey on the market this year as it did last.

Convention Notices.

☞ The Darke County Bee-Keepers' Society will hold a basket meeting on the Greenville Fair Grounds, on Friday, Sept. 7, 1888.
J. A. ROE, *Sec.*

☞ The North American Bee-Keepers' Society will meet at Columbus, O., on Wednesday, October 3, 1888, and continue as usual in session for three days. W. Z. HUTCHINSON, *Sec.*

☞ The Cortland Union Bee-Keepers' Association will hold their fourth annual picnic at the Floral-Trout Ponds, in Cortland, N. Y., on August 30, 1888. Let all bee-keepers and their friends come and have a good time. W. H. BEACH, *Sec.*

☞ The next semi-annual meeting of the Joint Bee and Poultry Keepers' Association of Boone and Hendricks counties will be held at the apiary of Wm. H. Riggins, 2½ miles south of east from New Brunswick, Ind., on Thursday, Sept. 6, 1888. All interested are cordially invited to attend.
ORA KNOWLTON, *Sec.*

☞ The Susquehanna County Bee-Keepers' Association will meet in the Court House at Montrose, Pa., on Saturday, Sept. 8, 1888, at 10 a.m., Sharp. The following subjects will be considered: Preparing Bees for winter; Preparing for, and Marketing, Surplus Honey; Does the Raising of Small Fruit Conflict with Bee-Keeping? All bee-keepers are cordially invited to attend. H. M. SEELEY, *Sec.*

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable; it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Red Labels for Pails.—We have three sizes of these Labels, ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2 00	$2 25
500 Labels	2 00	3 00	3 50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ¼ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 18 cents per pound for bag and postage.

Conventions.—The time for holding Bee-Keepers' Conventions will soon be here, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Home Markets for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

Honey and Beeswax Market.

NEW YORK.

HONEY.—Market is bare of extracted, but choice white clover or basswood will bring from 7½@8c. Southern extracted, 55@60c. per gallon, as to quality.
BEESWAX.—Dull at 23c.
HILDRETH BROS. & SEGELKEN,
Aug. 23. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb, 12½@15c.; amber, 8@11c. Extracted, white to extra white, 5½@6c.; amber, 4½@5c. Arrivals of the new crop are small, the estimates being an average crop.
BEESWAX.—20@24c.
June 18. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best new white comb, 15@16c, with little in sight and slow sales. Market is low, and beekeepers will do better to hold honey until approach of cold weather.
BEESWAX.—21@22c. Supply limited.
Aug. 22. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—New crop offered at 16@17c., demand being very light yet. Extracted is not in much demand, and prices are nominal at 7@8c. for the best grades.
BEESWAX.—22c. R. A. BURNETT,
Aug. 14. 161 South Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 12c.; fancy 2-lbs., 10@11c.; fair white 1-lbs., 10@11c., and fair 2-lbs., 8@9c. Buckwheat 1-lbs., 7@8c. The demand is dull for comb but fair for extracted, of which new from the South is arriving, and sells for 55@85c. per gallon.
BEESWAX—Dull at 23½@24c.
Jun. 15. F.G. STROHMEYER & CO., 122 Water St.

CHICAGO.

HONEY.—None here, and market in good condition for new crop. There is some demand for the extracted.
BEESWAX.—22c.
Aug. 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quota extractad at 5@8c. par lb., for which demand is fair. Comb honey, 12@16c.—Supply is large of last year's comb honey, and for which the demand is slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Aug. 15. C. F. MUTH & SON, Freeman & Central Av.

MILWAUKEE.

HONEY.—Choice white one-lb. sections, 14@16c.; 2-lbs., 13@14c.; 3-lbs., 12@13c. Extracted, white in kegs and ½-barrels, 8@8½c.; in tin and pails, 9½@10c.; dark in barrels and kegs, 6@6½c. Demand good for extracted, but dull for comb.
BEESWAX.—22@25c.
July 2. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Best white 1-lb. sections, 14@15c.; 2-lb. sections, 12c. Extracted, 6@7c.
BEESWAX.—20@23c.
Jun. 25. J. M. CLARK & CO., 1409 Fifteenth St.

KANSAS CITY.

HONEY.—We quote; 1-lb. sections, not glassed, at 18c.; 2-lb. sections and dark ones, also extracted, is not in demand. New honey is arriving freely, with a fair demand. This part of the Stute is favored with half a crop
BEESWAX.—None in market.
July 20. HAMBLIN & BEARSS, 514 Walnut St.

BOSTON.

HONEY.—We quote; 1-lb. sections, 14@16c.; 2-lb. sections, 12@13c. New Florida extracted, 8@8c. Sales are very dull.
BEESWAX.—25 cts. per lb.
July 5. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 5½ cents; light, 5¾c.; amber, 4½@5c. Comb, 1-lbs., 12@14c.; 2-lbs., 9@13c., as to quality. Arrivals not large, and supplies held firmly.
BEESWAX.—Dull at 19@22c.
Aug. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 18 to 20 cts.; 2-lbs., 15@16c. California white 1-lbs., 18c.; 2-lbs., 15c.; extracted, white, 8c.—amber, 7c.
BEESWAX.—None on the market.
Aug. 10. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, dark, 4@4½c.; bright, 5@5½c.; in cans, 7@8c. Comb, white clover in prime condition, 13½@15c.; dark, 11½@12½ cts.—Market quiet, demand good and receipts light.
BEESWAX.—22c. for prime.
Aug. 10. D. G. TUTT & CO., Commercial St.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

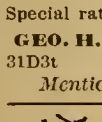
Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Advertisements.

PURE Untested Italian Queen....$1 00
Tested Queen, offspring pure Italian. 2 00
Select Tested Italian Queen—extra fine.. 2.50
Hybrid breeding Italian Queen 50
Sent by return mail. Direct to,
E. L. BRIGGS,
33D2t WILTON JUNCTION, IOWA.
Mention the American Bee Journal.

HANDSOME
ONE-PIECE SECTIONS.
WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.
THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, - CHICAGO, ILLS.

Patent Flat-Bottom Comb Foundation



High Side Walls, 4 to 14 square feet to the pound. Wholesale and Retail. Circulars and Samples free
J. VAN DEUSEN & SONS,
(SOLE MANUFACTURERS),
1Atf SPROUT BROOK, Mont. Co., N. Y.
Mention the American Bee Journal.

A POSITIVE FACT:
QUEENS by return mail, from the old and reliable
KNICKERBOCKER BEE-FARM.
(Established 1880.)
—Warranted, $1.00; Tested, $2.00.—
Special rates on large orders. Circular free.
GEO. H. KNICKERBOCKER, (Box 41),
31D3t PINE PLAINS, Duchess Co., N. Y.
Mention the American Bee Journal.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, - CHICAGO, ILLS.

Are You Going to the Fair?
IF so, read THE BEE-KEEPERS' REVIEW for August. It is especially devoted to Apiarian Exhibitions at Fairs, and is contributed to by H. D. Cutting, Prof. A. J. Cook, James Heddon, M. M. Baldridge, M H. Hunt, R. F. Holtermann, Dr. A. B. Mason and J. H. Martin.

The September Number will be devoted to "Food, and its Relation to the Wintering of Bees"

Price of the REVIEW, 50 cents a year. Samples free. Back Numbers can be furnished.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, **W. Z. HUTCHINSON,**
35Dtf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

EXTRACTED HONEY.
WE are buying **WHITE EXTRACTED HONEY.** Those having any for sale, are invited to correspond with us, stating the quality, flavor and price.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

BEE-KEEPERS' GUIDE;
EVERY Farmer and Bee-Keeper should have it. The
15th 1,000 Wholly Revised!
MUCH ENLARGED!
Contains many more beautiful Illustrations and is *up to date*. It is both PRACTICAL and SCIENTIFIC.
Prices: By mail, $1.50. To dealers, $1.00. In 100 lots, by freight, 50 per cent. off.
Address, **A. J. COOK,**
35Atf **Agricultural College, Mich.**
Mention the American Bee Journal.

OUR ILLUSTRATED
CATALOGUE
FOR 1888
WILL be mailed free to any one who is not already supplied with it. Send us your address, *plainly written*, on a Postal Card.
THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St., - CHICAGO, ILLS.
Mention the American Bee Journal.

Carniolan Queens a Specialty.
ALL Queens bred from imported mothers. Gentlest Bees known. No smoke needed. They cannot be surpassed as honey-gatherers. Never saw foul brood. Prices:

One Untested Queen	.....	$1.00.
6 "	Queens.....	5 50.
12 "	"	10.00.
1 Tested Queen	.....	2.00.
1 Select and Tested Queen	.....	3.00.

Ninety per cent. will prove to be purely mated. Safe arrival guaranteed. All orders booked and filled in rotation. Address,
ANDREWS & LOCKHART,
31D3t PATTEN'S MILLS, Wash. Co., N. Y.
Mention the American Bee Journal.

ITALIAN BEES and QUEENS.
ONE Untested Queen, 75 cts.; three for $2; for more than three, 60 cts each. **Tested Queens, $1.25 each. H. G. FRAME.**
33D2t NORTH MANCHESTER, IND.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Sept. 5, 1888. No. 36.

EDITORIAL BUZZINGS.

But still the world goes round and round,
And the genial seasons run,
And ever the right comes uppermost,
And ever is justice done!

The British Bee-Keepers' Guide Book, by our friend T. W. Cowan, has been translated into Spauish, and republished at Barcelona, Spain. It was long since translated into French. It is a good and practical work, aud richly deserves its popularity.

The Two Most Skillful Architects in all the world are the bee and the spider. The one puts up neat packages of sweets, and the other builds a slaughter-house for flies. Spiders are valnable, inasmuch as they destroy noxious insects. So says an exchange.

It is an Old Proverb, but a trne one, that "The Gods give us no great good without labor." It is also true that the *hardest labor* is not always that which receives the greatest pay. Bees are the *greatest workers* in the world—resting not day or night—but in six or eight weeks they die, before having enjoyed any of the results of their labors—leaving to their progeny the wealth gathered. Then comes man, and often "robs" both parent and offspring of their hoarded treasures.

Germany still mourns her heroic Emperor Frederick, and few can read without interest the well-illustrated sketch which opens *Frank Leslie's Popular Monthly* for September, tracing his whole career. The number abounds in most attractive illustrations, the frontispiece being very taking.

The Silver Lining to the clouds is now becoming apparent. White clover is now giving second bloom in some localities, and the bees are gathering more honey from it, than at any time previous during this year. Fall flowers are coming in and present an excellent prospect. Sweet clover is rather late in blooming, still it is just commencing to show its flowers and spread its perfume. Mr. O. B. Barrows, of Marshalltown, Iowa, wrote us as follows on Aug. 30, 1888:

From the time basswood bloom failed until Aug. 18, bees lost in weight until they neared starvation, with the prospect of being obliged to buy barrels of sugar to keep them from starving next winter. On the 18th they commenced gaining in weight, and some that did not swarm and were full of bees, have gained 20 pounds, and the most of them are out of the woods, so far as winter stores are concerned; and the balance will be, if this flow holds out a few days longer. We can now see the silver lining to that cloud.

Shall it be Changed?—Several have advocated the changing of the time for the payment of dues and the election of officers of the National Bee-Keepers' Union, to January instead of July. Here is what Mr. E. France has to say on the subject:

The report of the Manager of the National Bee-Keepers' Union, with voting blanks, was brought to the house by some of the boys, but I have never seen it. I wish we could change the time from what it is to Jan. 1, to make these payments; then we would have more time to attend to it, and could take time to see other bee-keepers, and very likely get some of them to join the Union. As it is, the time for renewal comes at the most hurrying time of the bee-keepers' year. For my part I would be willing to pay another dollar on Jan. 1, if the matter could be changed.

Of course it can be changed, if there are enough in favor of it. Votes count. Will every member kindly send in a vote on the subject who is in favor of the change? In that way it can be settled by amending the constitution accordingly.

A New Edition of Cook's Manual is just published, and a copy is on our desk. This is the 15th thousaud of the deservedly-popular Manual of the Professor. It is largely re-written,and much elaborated, containing over 100 pages more than the former edition, besides a large number of new engravings. On this account the price has been increased to $1.50. It now contains 462 pages.

On the matter of bees injuring grapes, we find the following on page 337:

That bees ever tear the grapes is a question of which I have failed to receive any personal proof, though for years I have been carefully seeking it.....I feel very certain that bees never attack sound grapes. I judge not only from observation and inquiry, but from the habits of the bee. Bees never bore for nectar but seek, or even know only of that which is fully exposed.

We may give further extracts, as opportunity offers. It can be obtained at this office.

Not only do the bees gather the honey, but it seems that Nature intended that they should fructify the flowers, and in return for this valuable work, the flowers pay the the bees in nectar, which they carry to their homes to sustain their lives and feed their insect progeny—the *surplus* only being taken for man's use to pay him for the necessary care and protection. An exchange puts it in these words:

The usefulness of the bee is not confined to the honey she produces. Her mission is more extended. Much of the fruitfulness of our orchards must be credited to her diligent going from blossom to blossom. In the spring, when the pollen is ripe, it is shaken down by her upon the inner part of the blossom, or carried from one flower to another, thus making them fruitful. Plants which have male and female flowers on separate stalks are almost altogether dependent upon insects like the bee for fructification.

Verbena and Cone Flowers.—J. O. Todd, Richmond, Iowa, on Aug. 25, 1888, writes as follows:

I send samples of flowers on which the bees are at work very industriously. No. 1 has a blue flower and No. 2 yellow flowers. Please answer in the BEE JOURNAL.

No. 1 is *Verbena hastata*, one of the numerous vervains. It has long been recognized as a good honey-producer.

No. 2 is the cone flower (*Rudbeckia*), which is another August flower, and ytelds considerable honey.

A Honeyed Man.—Recently a man down in Kennebunkport, Maine, says an exchange, captured 800 bees while they were swarming in the woods. He daubed himself with honey, the bees alighted thereupon, and in this way he transported them home without receiving a sting. There is nothing strange about that—still the newspapers are passing it around as if it was a great feat.

The Langstroth photograph, that is just gotten up by Mr. Thomas B. Reynolds, of Dayton, O., is on our desk (see page 590). It is a full-length one, and shows the general appearance and pleasant face of the "grand old man" which we all have learned to love. It is full cabinet size, 4x6 inches, and we do not know how 50 cents could be spent to better advantage, than by buying this photograph—for the owner will have the unspeakable pleasure of being able to *look* into that benevolent face, and then to *feel* that he has done a meritorious act by adding to the fund which is to provide for the necessities of the closing years of a life which has been spent for the good of an industrial pursuit, and who will long be held in "blessed memory."

Why Should Not the subject of bee-keeping be taught in all of the Agricultural Colleges, if it is properly a branch of practical agriculture?

GLEAMS OF NEWS.

Honey Candy.—A correspondent in the *Canadian Bee Journal* gives the following concerning sugar-ripened honey, which may interest our readers :

At our home we have had a coal-stove burning for over two months without interruption, keeping the temperature high, consequently very dry. Near the stove is a pantry with only a lath and plastered wall between.

In the pantry was a large fruit-dish containing several pounds of very fine, well-ripened honey. The dish had been setting on the shelf next to the wall for about a week, and when it was brought out the spoon was resting on the top, which was tough, and had a glassy appearance. When pressed with a spoon it seemed like a paper covering. We scratched a hole in it to ascertain the depth, and found it to be between ¼ and ½ of an inch. When placed on paper it looked like soft wax, and one would hardly believe that honey, by a hot, dry atmosphere, would evaporate its moisture and become so thick. We thought this a good opportunity to test the difference in quality and flavor ; taking some of the honey from a 60-pound tin and comparing it in texture, color, and flavor with this better ripened, it did not seem the same. The contents of the tin was specially selected, and we considered it as good as could be produced ; but tests go to prove that the honey in the dish was so much superior that any one comparing them would not hesitate to give 2 or 3 cents a pound more for it.

We do not know how much loss there would be in evaporating honey to that extent ; but we suppose the loss to be from 10 to 20 per cent. We believe this class of honey would find a market at a price sufficient to warrant the experiment. It would be necessary to place it on very shallow vessels, and subject it to a very low temperature, that the color might not be changed.

We fancy a room properly arranged, with coils of steam-pipes to raise the temperature to a desirable height, at the same time allowing a current of air to pass through, would soon reduce our ordinary honey to the consistency of jelly. It could then be placed in tumblers, or any kind of vessel ; in fact, paper bags could be manufactured of a size and shape suitable to hold it, and sold in 5, 10, 15 and 20 cent packages. It might even be sold by the penny worth, which would increase its consumption.

What is It?—The Bee-Keepers' *Review* for Aug. 10, came duly to hand, and as usual is very interesting. On Wiley's confession, the editor remarks thus :

Prof. W. A. Wiley has received so vigorous a trouncing from the bee-journals, particularly from the AMERICAN BEE JOURNAL, that he has at last forsaken his dignified silence, and attempted—well, it is hard to say what. It is a mixture of defense, explanation and confession, in which the contradictions and inconsistencies are pitiably ludicrous. It seems that he lacks the manhood to come right out and own up without any quibble, and do what he can to repair the damage he has done. Such confessions as he has already made awaken only contempt and disgust.

And it may be also stated that he would never have departed from his rule of "dignified silence" but for the editorial rocks hurled at him by the AMERICAN BEE JOURNAL !

"Worthless Drones in the hive of Nature !" How often we hear that sentence applied to lazy men. We are usually inclined to dispute the matter because the drone bees are not a *worthless set*—they have duties to perform, and are useful in the line designed by Nature. But here is a little story, told by Anna B. Quillin, of Ipara, Wis., in *Gleanings*, which will be read with interest :

One morning, a year or more ago, my little friend Max came in to see me ; and as he walked across the room I noticed that he held both his hands behind him. As he approached my couch he explained, "I've got something for you—just hear them sing !" and suddenly, before I realized what he was going to do, he was holding his hands up by my ears. And, oh such a *buzz, b-u-z-z, b-u-z-z-i-n-g* as I heard ! I felt as though a whole swarm of bees had surrounded me. Glancing up at him I saw his eyes were twinkling, and he was shaking with suppressed laughter as he watched my astonished countenance.

"O Max !" I said, "are your hands full of bees, or what have you got in there ? It sounds like a swarm of bees."

"Just five humble-bees," he replied, "but they can't hurt you, for they are nothing but drones."

"But, where did you get them, and how did you know they were 'nothing but drones ?'" I questioned.

"Why, 'cause I found them on that old dead tree in the lane !" he replied.

"But, Max," said I, "how could that tell you they were drones ?"

"Ho ! he said. "don't *you* know how to tell a drone ? Why, I'll tell you how you can tell them every time ! The workers are too busy to lounge around and do nothing ; and when they alight it is always on something they can work on ; and when you see bees sitting around on dead wood, with nothing to do, you may be sure they are old lazy drones. Why, I have caught *dozens* of them, and they are *always* drones. I never caught a worker that wasn't at work, or else looking out for a job."

"Well, Max, that is a new idea to me," I said ; "but if that is the case, the bees are very much like people, aren't they ? For a man who spends his time sitting around on old store-boxes, and lounging about saloons is generally a drone in the human hive. Our workers in the world haven't much time to waste, for they can always find plenty to do, and take pleasure in being useful."

Sometime Ago items were going the rounds of the press, showing that bees were storm warners. Now, they are barometers which warn the denizens of Australia of coming hot weather. A Melbourne correspondent of the Dundas *Advertiser* narrates what he considers an interesting proof of this provident and far-seeing instinct of bees !

Turning from men to insects, a singular circumstance is reported from a hot, dry valley in New South Wales. Last year the drouth there was of long duration, and the denizens of the apiaries suffered much from it. This year the bees have made provision against a similar emergency. They have filled a large number of external cells in every hive with pure water instead of honey. It is thought that instinct leads them to anticipate a hot summer.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Seasonable Hints.—The following remarks about seasonable apiarian operations, is from the *American Agriculturist* for September. It is time now to be making calculations on the necessary work before us :

It is of vital importance that every colony of bees should have a thorough inspection at the end of the honey season. It would be very exceptional if some colonies were not found queenless, and robbing is sure to follow. Parent colonies that have cast swarms are generally the ones found wanting in this respect, and if attention is not given at the close of the honey-flow, the bees will get the start.

When the flow ceases, the bees with their powerful force of idlers hunt up and rob such defective colonies. It matters little whether such queenless colonies are weak or strong, they will not defend their stores. The mischief does not stop here ; when robbing bees become aroused they will overpower and destroy colonies that may be in proper condition. It is of the utmost importance to see that every colony has a good fertile queen at this season.

The reason why colonies having cast swarms are often found queenless is, that at the time of maturing, they have but the one young queen ; they have no brood to fall back upon, if the young queen becomes lost, when she issues alone into the open world to receive fertilization, surrounded by myriads of enemies. In returning she sometimes enters the wrong colony.

September is the proper month to feed all colonies that may lack in food, for winter bees cannot be fed successfully during freezing weather, and if fed early, they seal the honey over. Unsealed honey in the combs near the bees during cold weather becomes diluted with the moisture from them, and is unhealthful.

Caring for, handling and disposing of the honey crop also demand our attention during the latter part of the season. It has been too common to ship honey to distant markets at a low figure. No one can as successfully build up a demand for honey as the apiarist himself, and the business is far safer in his hands than in any other. The place to commence operations is at home, where we have the entire care and control of the matter. Several thousands of pounds of honey may be disposed of in almost any locality with much greater profits than by shipping. Build up a home market, and never drive business away that can be transacted at home.

A Lady, writing about small fruit and flowers in the *Indiana Farmer*, concludes thus :

We are largely creatures of education, and if we were educated to look upon the honey-producing weeds as something useful, would they not cease to be such an eye-sore to the farmer as well as the passerby ? Suppose the seeds from the fence-corners do get scattered over the field ; it will only take more culture to keep out of growing crops, and most people will admit that they can hardly have too much culture. I think the beautiful asters and golden-rods are an ornament to the fence corners. But, advancement in knowledge usually makes us equal to any emergency, and what we have lost in the destruction of weeds and forest trees, may be regained in the cultivation of plants, etc., which will not only furnish our tables with delicious fruits, but also the where-withal to sweeten them.

The culture of small fruits furnishes an abundant supply of bee-food, and where there are small fruits there ought to be bees to help fertilize the flowers, and so make them more productive.

The Crop and Honey Market.—In the San Francisco *Chronicle* we find a recent article on the crop of honey, and the market values of the product from which we extract the following :

Reports from all over the State are to the effect that the honey crop is so short that it is no exaggeration to say that it is a total failure. There is hardly an apiary in any of the hitherto most prominent bee-keeping counties of the State which has this year produced surplus honey enough to pay interest on the capital invested therein. The same reports come from the East, and never since the care of bees attained the proportions of a regular industry has the honey yield of the United States been so limited as in the season now closing.

In conjunction with the limited output, however, has come a marked rise in prices, but these comparatively high figures are after all of little value to the bee-keeper, for of what use would it be to him were honey to be quoted at even a dollar a pound if his bees produced no surplus for sale ?

The experience of the present season is, after all, only a repetition, on a more extended scale, of what has been the uniform history of the industry ever since the first colonies of bees were brought around by the isthmus and sold here for $200 apiece. First there has come a succession of good seasons; the stock of bees has largely increased ; the price of honey has gradually lowered, and finally many have gone out of the business in disgust.

Then a bad season has come, or a succession of them ; there have been no wild flowers, or the natural bloom has not contained the usual amount of nectar ; the honey crop has been short ; prices have risen, and a few, who were located in exceptionally favorable regions, have made large profits.

This has stimulated others to go into the business, and the result has been another period of heavy production, low prices and small profit. For those who have been able to secure anything like a fair crop, the present season will be a bonanza. And those who have been sufficiently far-sighted to provide their bees with an abundance of forage, without placing any dependence upon the natural bloom, will this season reap a good reward for their enterprise.

Those who have taken this precaution are few enough by the side of the many who are accustomed to "trust to luck ;" but this lends emphasis to the general proposition that the bee-keeper who treats his colonies precisely as he would any other kind of animals upon which he placed dependence for an income, and sees that provision is made for a bad season, will come out ahead in the long run, while the one who trusts to nature will run behind.

The St. Louis Fair opens Monday, Oct. 1, and closes Saturday, Oct. 6. Seventy thousand dollars is offered in premiums. On Tuesday, Oct. 2, the grand annual nocturnal pageant of the Veiled Prophets will be given. The streets of the city will be illuminated by 500,000 gas jets, thus presenting one of the most realistic sights imaginable.

All railroad and steamboat companies have made a rate of one fare for the round trip, during the entire week.

Any of our subscribers desiring a copy of the Premium List will receive one free by addressing Arthur Uhl, Secretary, 718 Chestnut Street, St. Louis, Mo.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Work in Surplus Stories.—Many letters are received from beginners asking why their bees do not work in the surplus story. A correspondent in the *Prairie Farmer* asked a similar question, and Mrs. L. Harrison answered it in this manner :

Bees would work in your surplus sections if they had anything to work with ; they cannot make bricks without straw, or, in other words, cannot secrete wax and store honey when there is none to gather in the fields. The honey-flow has been very little last year and this, with few exceptional days. Let there be a flow of honey, and your surplus sections would soon be full of bees, hanging in webs, secreting wax to build comb, and loaded bees would drop at the entrance. This season they get just honey enough to keep them breeding, and the queen is not crowded for room to deposit her eggs. I looked into a hive to-day where bees had been bived in a hive full of combs. There was brood in all the combs, but not one cell of honey stored above it, as is their usual way of doing. If there should be no honey at all for a few days, these bees must starve, if not fed. All the surplus stored in our apiary this season is where two or three swarms clustered together and were put into a hive full of comb, and surplus boxes put right on to give them room, during the blooming of the linden.

I have heard of but one apiary in Illinois where there has been any surplus stored, up to Aug. 14. This one is located on the Illinois river bottom on the east side, and is surrounded with a great deal of low, swampy ground. The proprietor claims that the east side of the river is better for an apiary than the west side, as many bees are lost in the river while crossing it, on the approach of storms from the south and west ; and the bee-pasture is better on the east side, as there is more low land. An apiary located opposite to him on the west side has no surplus, while he has secured 1,500 pounds from 50 colonies, spring count.

Well Expressed.—The *Rural Home*, an influential farm paper, thus notices the National Bee-Keepers' Union, and the work being done by it, through the pen of a valued correspondent :

Again the Manager of the Bee-Keepers' Union is out with his yearly report. This report shows that the Union has been successful in every case that it has undertaken to defend, and it is hoped that the ignorance and petty jealousy which prompts certain individuals to make war on the little busy bee, which is of much benefit to the farmer and fruit-grower, by way of the fertilizing of nearly all fruits and seeds, will cease.

Ignorance, only can accuse the bees of eating *peaches* and *young ducks*, as in the case of the Arkadelphia, Ark., suit, which has been in court for the past six months, and has caused one of our best bee-keepers much trouble, besides fines and imprisonment. The whole thing seems to have come out of the jealousy of a few individuals, and the Mayor of that city.

The Manager of the Union deserves great credit, in that he does not undertake to defend any bee-keeper who has not done all in his power to keep peace between his bees and their neighbors.

The *Rural Home* and its correspondent have the thanks of the Manager for these kind words. Peace is his ardent desire, even if he is compelled to *fight* for it !

Scatter the Leaflets.—Look at the list (with prices) on the second page.

Pure Bees are the Best.—On this subject a correspondent of the *Bee-Keepers' Magazine* says :

The honey-bee has been known—if history is correct—for many centuries ; the traditions of the Bible show its great antiquity more strongly than does any other historical work, so we can safely assume that the apis is as old as man himself. When, however, we come to the question of which of the present known races was the original, or whether either of them was, for that matter, we are wholly in the dark. As well might we assume that the one or the other was the original race, and we may do so with impunity, as no one can bring forward any proofs to the contrary.

I do not propose now to attempt to prove an impossibility, or to assert anything as to priority, the question with me being simply, "Shall we receive greater benefits from keeping our Italians pure than by crossing them ?" I claim, in answer, that we shall, and do, and offer the records of the past in proof of the correctness of that answer, while at the same time I will give my own experience during over twenty years past as a bee-keeper, in comparing the Italian and black and their crosses ; as evidence to the same point.

Conventions.—The time for holding Bee-Keepers' Conventions has now arrived, and we cannot give any better advice than this : Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25. It also contains a lot of blank leaves on which you can note important matters as they come up. Do not fail to send for a copy of it.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire ! It is only one out of every fifteen ! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

A Modern BEE-FARM, and its Economic Management ; showing how bees may be cultivated as a means of livelihood ; as a health-giving pursuit ; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1, postpaid.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

QUERIES & REPLIES.

Amount of Honey for Surplus and Brood-Rearing.

Written for the American Bee Journal

Query 572.—What proportion of the honey gathered from a "field" goes to rearing brood, and what part for surplus, on an average?—Michigan.

I do not know.—P. L. VIALLON.

I do not know.—H. D. CUTTING.

I do not know.—MRS. L. HARRISON.

All answers are guess-work, and much depends, at that.—J. P. H. BROWN.

I doubt whether any one knows. I am sure I do not.—M. MAHIN.

I do not know how to get at it.—J. M. HAMBAUGH.

That is hard to tell. I have not a well-defined idea on the subject.—EUGENE SECOR.

I can only guess. In an average season at least one-half is consumed in brood-rearing, and perhaps more.—C. H. DIBBERN.

In an average season, taking the year through, I "guess" the bees require two-thirds of the amount gathered.—R. L. TAYLOR.

I put it at about 9 to 10, this season; and about 2 to 1 in a good season.—J. O. SHEARMAN.

At a very rough guess, one-third for brood, one-third for support of old bees, and one-third for surplus.—C. C. MILLER.

From the way I have seen brood-rearing use up honey, I should say that more honey was consumed, one year with another, by the bees and their young, than by the owner and his customers.—JAMES HEDDON.

That is too hard a nut to crack. We should judge, however, than on an average three-fourths of the honey harvested is used up by the bees.—DADANT & SON.

This is a theoretical question that I am not only unable to answer, but give a guess even. I doubt if any one can give an answer that will be of value, owing to difficulty of obtaining data on which to base it.—J. E. POND.

I should say that in a good season about one-half of the honey goes to feed the brood. Such a season as this, 100 per cent. is thus used.—A. J. COOK.

It takes at least 60 pounds of good, thick honey to carry a colony one year. If more is obtained, we get a surplus; if less, we must feed. All depends upon the season, etc.—G. M. DOOLITTLE.

I do not know. Last year my bees gathered enough to last until they gathered last spring; but this year they lived from "hand to mouth" till sweet clover yielded honey.—A. B. MASON.

It depends entirely upon the management. A well-managed colony puts about 50 per cent. of the gather in the supers; about 30 per cent. for brood-rearing, and about 20 per cent. for winter stores.—J. M. SHUCK.

This is a hard question to answer, as there is really no uniformity as a basis on which to form an opinion. Bees will consume more or less honey, as they can or cannot get it. Some observations have led me to believe that a good, strong colony will consume at least 100 pounds of honey in a year, if they can get it; and they will get along with much less if they are compelled to do so. On an average of years, I have calculated that a colony of bees can furnish *one pound* of surplus against every pound they consume; but there is no certainty about it. This season only the very best colonies can gather enough honey to live on.—G. W. DEMAREE.

The answer can only be guess-work, and hence very indefinite. It is impossible to give an answer "on an average." It does not average. If there is only enough honey gathered for brood-rearing and food for the old bees, they take it all. If there is not enough for these, then the one or the other goes short. In any case, the apiarist gets no surplus until these necessities are provided for. In such a season as the present one, the amount used by the bees being barely provided for by Nature, the season and the honey-gatherers, the apiarist gets no surplus, or only what small amount may become a "surplus." In an ordinary season of plenty, perhaps it may be a tolerably good guess to say that the old bees consume one-third, and brood-rearing another third—leaving the remaining one-third for surplus, provided that more than 60 or 80 pounds of honey is gathered during the season, as it would certainly take that amount for the necessities of the bees, including the supply needed for the coming winter.—THE EDITOR.

Plan for a Bee-Cellar.

Written for the American Bee Journal

Query 573.—I am contemplating building a cellar for wintering bees in, and have settled on this one: I have a dry and somewhat steep bank, into which I propose to dig 20 feet in length, and 12 feet in width, and then dig a ditch 2 feet deep all around the outside, filling it with small stones, and then build a close wall 8 feet high. On the inside of the wall I will board it up, leaving a space of 4 inches or more all around to be filled with sawdust, and bank up the whole thing, all but the door, making it perfectly dark. On top of this, I propose to build a shop for the purpose of making hives and storing honey, etc. 1. Will such a bee-cellar do? 2. How many colonies will it winter? 3. What about the shop overhead?—New York.

1. It will. 2. About 100 colonies. 3. The shop would be objectionable if there is much machinery run by power.—J. P. H. BROWN.

Having never wintered bees except on the summer stands, I am unable to answer from experience.—J. E. POND.

1, Yes. 2. It depends upon the size of the hives, but it ought to contain 150. 3. It is O K.—DADANT & SON.

Yes, if it preserves the proper temperature from 38° to 45°, Fahr., as I think it would. 2. As many as desired—200 or 300 colonies. 3. The shop is all right.—A. J. COOK.

1. I should think so. 2. That will depend upon the size of the hive and the ventilation given. 3. It will do no harm.—MRS. L. HARRISON.

1. I should hestitate about putting in the sawdust. It will soon be rotten, will it not? Why is it not all right without it? 2. Probably 100. 3. It is no objection.—EUGENE SECOR.

1. Yes, if the banking up is sufficient in amount to exclude frost. 2. From 200 to 300. 3. It is all right, but pack the floor between it and the cellar with 5 or 6 inches of sawdust, to keep the frost out of the cellar.—R. L. TAYLOR.

Such a bee-cellar is all right, but if much pounding is to be done in the shop overhead, I should prefer it elsewhere in winter.—C. H. DIBBERN.

1. Yes. 2. As many as you can put into it. 3. If the hives do not touch the floor, all the noise you can make overhead will do no harm.—J. M. HAMBAUGH.

1. I think so; but you will be safe to go by Doolittle's answer. 2. Perhaps 150 to 200. 3. Lath and plaster the cellar overhead, and I think the shop will not trouble.—C. C. MILLER.

1. Yes. 2. No one can tell you how many colonies it will winter, but it will hold 150 colonies if you build it deep enough. 3. I do not like the shop overhead. I should prefer a separate building. Your cellar will make a good place to do all of your summer work in.—H. D. CUTTING.

1. It will work well. 2. All you can get in. 3. The shop will do no harm if the hives rest on the cellar-bottom, and the protection is thick enough between the two floors so that no frost gets through to the cellar.—G. M. DOOLITTLE.

1. There is nothing to hinder it from answering every purpose. 2. It would depend upon how the hives were placed in the cellar. 3. If the joist are well "bridged," I do not believe that the shop will interfere with the bees.—G. W. DEMAREE.

1. I think you will have a good cellar. 2. The number of hives the cellar will hold depends upon their size, and the closeness with which they are packed. 3. The shop overhead will do no harm if no machinery is used, provided the hives in the cellar do not touch any part of the building.—J. M. SHUCK.

1. I see no objection to it, except that the sawdust may gather too much dampness. I would prefer a 4-inch dead-air space. 2. I can make no estimate of the number of colonies that may be wintered without knowing the size and form of the hives. 3. The shop will do no harm.—M. MAHIN.

1. Such a cellar might do, but the sawdust will become damp and rot, and unless the shop is kept warm, the cellar will get pretty cold sometimes, unless there is a double floor, and filled between. 2. That will depend upon the size of the hives, and how they are put in. Do a little figuring and you will know. 3. Some say that disturbing the bees in winter does no harm; but I *know* that it harms mine.—A. B. MASON.

1. Yes, it will do about as well as any repository does. 2. I would say anywhere from 100 to 200, ventilating accordingly. 3. I should rather not pound or make any big noise or jars over the repository. Of course you want the floor filled with sawdust unless you keep a fire in it nearly all the time. You do anyway.—JAMES HEDDON.

1. Yes. 2. All that you can comfortably get into it, providing the ventilation is sufficient. 3. As the hives will rest on the bottom of the cellar, "the shop overhead" cannot disturb the bees. If they do not touch the sides of the building, they could not feel any vibration, even if "power" is used.—THE EDITOR.

CORRESPONDENCE.

LEGISLATION.

Which Shall it be Hereafter, Legislation or Litigation?

Written for the American Bee Journal
BY DR. C. C. MILLER.

In a recent number of the AMERICAN BEE JOURNAL, the editor refers to me a question which lack of time has prevented me from noticing earlier. It is a question as to what is to be done by one who is likely to be hindered in the prosecution of bee-keeping for lack of the full and free swing that most of us enjoy. This opens up a subject which I had considered laid on the shelf, and which I should not again open but for the implied wish of the editor, and the —as it seems to me—very great importance of the subject. Without considering the particular circumstances attaching to any one case, it will be sufficient to consider the ground in general.

I hardly know the best approach to make. True, I might present only such phases of the matter as are entirely new, and thus avoid awakening prejudice; but I am not sure that such a course would be entirely frank and open. Besides, I think the sober second thought of many, makes them coincide with my own views.

I may say, then, that the remedy lies in awakening in the minds of bee-keepers, a sense of the real need of taking such steps as shall result in putting their business on a footing as secure as that of others. At least some are awake to the necessity for some action, as evidenced by their becoming members of the "Bee-Keepers' Union." That this Union has accomplished good, perhaps no one will deny. Wisely conducted in the future as it has been in the past, the necessity for its existence may not cease for a long time to come, for all that the old rule holds good, that "An ounce of prevention is worth a pound of cure."

Take the case of Mr. Z. A. Clark, that has justly excited so much interest. Is it not possible that the same amount of effort, with possibly a less expenditure of money, would have secured such statutes as to have made bee-keepers safe from annoyance, not only in Arkadelphia, but throughout the entire State? When the matter is fairly understood, litigation will certainly not be preferred to legislation.

So far, the only legislation attempted, relating at all to bee-keepers, if I am not mistaken, has been, not that instigated by themselves, but, like that in Michigan, such as went directly contrary to their interests. In the uncertainty which attends such things, have we any security that when next attempted, as it may be, in some other State, it may not succeed? Although it failed in Michigan, the leading bee-keepers in that State considered the danger so great as to need their most active opposition. Please look at the matter clearly.

As it now stands, any wily schemer, for the sake of gratifying some petty spite, may secure the passage of a law injurious to bee-keeping interests. We are likely to have legislation, for that which has been attempted is likely, under the same circumstances, to be attempted again. Is it not better for us to take the initiative, and secure such legislation in advance as shall best subserve the interests, not only of bee-keepers, but of the public at large? In other words, will it not be better and easier to labor for good legislation than to labor against bad legislation after it is effected? In the one case, we have a fair field, for in most cases, at least prejudice is not aroused, as it is when some case of strife occurs.

It is a hopeful sign that some are beginning to consider what is the best legislation needed, and devising plans for the same. To that part of the subject I have given very little attention. I am hardly competent to decide what laws are needed, and it is hardly worth while to give very much attention to it, so long as the mass of bee-keepers are not awake to the importance of doing *anything*. The number of members in the "Bee-Keepers' Union" shows that. However liberal they may be in their desire to have every one a bee-keeper, and in wanting nothing done that may in any way prevent it at any time and in any place, they are nevertheless by no means liberal in helping to sustain them in the ranks after they get them there. To those, however, who are interested enough to join the Union, I respectfully submit whether it is not cheaper and better to have legislation than litigation.

Worker-Brood in Drone-Cells.

In reply to a query in a recent number of the AMERICAN BEE JOURNAL, one of the correspondents seems somewhat to call in question the possibility of workers being reared in drone cells. Although I may have seen more than one case, there is one case which I distinctly recall. In 1876, Mr. R. R. Murphy sent to the AMERICAN BEE JOURNAL "a piece of drone-comb with worker-brood in." It was reported on page 250 of Vol. XII. This remark was made by the editor: "This was a very clear case. Cells four to the inch, flat caps, out of which hatched nice young workers." There was no mistake in the case. Mr. Murphy was too experienced to be deceived, and besides, as I was living in Chicago at the time, friend Newman handed the comb to me, and I saw the workers hatch out of it, with my own eyes.

It is not a very uncommon thing to see drone-cells where drone-comb abounds, having the mouths of the cells contracted by a heavy rim of wax. Is it not likely that in such cases the bees conclude there is an unnecessary amount of drone-comb, and that after being thus contracted these cells are to all intents and purposes worker-cells?

Marengo, Ills.

APIARY WORK.

Honey Shower, Balled Queen, Giving Frames of Brood, etc.

Written for the Prairie Farmer
BY MRS. L. HARRISON.

There was a shower of honey in this locality from the basswood; something unusual, but like a thunder-shower, heavy and soon over. Those colonies that were in good condition—had their dishes right side up to catch it—are no longer poor, but rich in choice stores.

The change from poverty to riches was so sudden, that the bees had not wax scales secreted with which to build comb, but filled every empty cell. In order to have a share of this sweetness, as it were to take toll, I extracted combs where there were no brood before it was sealed. It was of course unripe, but sufficiently evaporated, and I put it out in the sun to boil, with the thermometer playing around the hundred. What I have is in vessels of tin or glass, with cheese-cloth tied over the top to keep out insects, and allow the moisture to pass off. When it is sufficiently ripened, it can be stored away, and will keep for all time free from souring.

Balling the Queen.

In looking after a swarm that had just issued, I found the queen balled in front of a hive near by. Now in releasing a queen thus balled, if the bees are picked off she is apt to be stung to death in the operation, but when the ball is thrown into water, then every fellow is for himself. Life-preservation is the first law of nature, and the queen is no longer thought of, and when the queen is released she can be taken from the water and secured. When I threw this ball into the water the bees swam away from her, but the poor thing was already dead.

I see it stated by a late writer, that when a queen gets separated from her colony, she returns to the place from where she went forth on her bridal tour. If this is so, it accounts for the reason why queens are so often found at the entrance of other colonies. When this swarm missed its queen its returned sad and disconsolate to its former home; no more swarming now until another queen can be reared. I shall watch this colony with interest.

In nine days all queen-cells are removed but one, so there will be no further swarming. Managing in this way, the colony is kept very strong during the honey flow, to gather surplus honey, and will go into winter quarters with a young, vigorous queen. Where no increase is desired, this is certainly a good way to do.

Giving Frames of Brood.

There has been much rain of late, and it is reasonable to expect a fair flow of honey. In order to profit by it, bees must be in good condition to gather it. After the hurry of swarming is over, it is well to look after the colonies that have cast swarms. I have sometimes found such hives to be almost entirely filled with honey, and a handful of bees with a laying queen, and a small patch of brood. I would take all the combs free from brood, and extract them, confining the bees with their brood to one side of their hive by a division-board. Then I would open a large colony, and take out a frame of sealed brood, brush off the bees, and give it to the little colony, placing one of the empty combs in its place. When enough of the young bees had emerged to cover the comb given to the small colony, I would give it another in the same way, and in about ten days it would be a strong colony, fully equipped for business. If it had been left alone, it would have perished the following winter, although surrounded with honey, having too few bees to keep up the necessary warmth. It is sometimes also a benefit to large colonies to have a frame which is partially filled with brood removed, and an empty comb put in its place, for I have seen every cell in such filled with brood. But if a frame filled with brood and honey is removed from a strong colony, and an empty frame put in its place, it will almost surely be filled with drone-brood.

Bees Clustering Outside of the Hive.

I do not desire more than one swarm from a colony, but if I am very busy, they get beyond my control. If I see a "cast," I cut out the queen-cells and return it, or a "maiden," which, by the way, is a swarm that casts one.

No bee-master allows his bees to cluster on the outside of a hive for want of storage room. And the farmer who waits until after harvest before he gets time to put on surplus boxes, may go without honey on his cakes another winter. When the combs are built out white, is a good time to put on receptacles for honey. What kind these should be, depends largely upon the way it is to be disposed of. Bees will, no doubt, build as much in starch boxes as in the whitest sections, but there will be a great difference in the returns, if it is to be marketed. City trade demands one and two pound sections. These can be bought by the thousand cheaply, and any child can put them together, and the cases to hold them. York State bee-keepers put one-pound sections for market into paper boxes, with highly colored lithographs on them, but our Western consumers do not demand all this "fuss and feathers."

Peoria, Ills.

The Prodigal—that Didn't Return.

Written for the American Bee Journal

BY EUGENE SECOR.

A silly bee got on a spree,
Out in a field of clover.
"I'll drink," said she, "my fill, te-he,
And play the merry rover."

"Now what's the use to be a goose,
And all the time be giving,
When life is short and made for sport,
And all we get's a living?"

"So I for one will have some fun,
And live a life of pleasure.
Who said I ought to work for naught,
And carry home the treasure?"

The day was fair. The balmy air
Played gently with the flowers.
By some strange *spell*, sweet hydromel
Distilled in nect'rous showers.

She frisked about, now in, now out,
From every flow'ret drinking;
Played in the sun till day was done.
With no thought worth the thinking.

When night drew nigh she heaved a sigh,
Half sorry for her folly;
But stubborn Pride, that purblind guide,
Soon banished melancholy.

Just underneath a plantain leaf
Retired she in the gloaming.
A nimble toad spied her abode;
A wink—she ceased her roaming.

Forest City, Iowa.

GOOD REPORT.

Steady Honey-Flow—Queen-Excluding Honey-Boards.

Written for the American Bee Journal

BY H. O. KRUSCHKE.

I thought that I would throw a little bright sunshine in among so many dark reports. I am having a great honey season; not as much per colony as is often reported, for I never look for more than one-half as much—when I get that I rejoice. We never look for surplus till after July 1, or basswood bloom, and this was after July 10 this year. From then on it has been a continuous flow, not in torrents, but a steady gain.

My best colony has 140 one-pound sections full; and some are sealing 40, 50, and 70 pounds each. I tiered-up some for extracting three full stories high. They had brood in all the stories, and some of them have a bushel basket full of bees. I took off the boxes yesterday, and left them on the hives till I went through the apiary, but no robber bees appeared. I could not coax them to lick out the comb-carriers. This will continue for ten days or two weeks, if no frost appears. If I had white clover I would be in a regular "Eden."

I have never used queen-excluding honey-boards, but I have yet to find the first bit of pollen or brood in the sections. Large hives is the remedy. I had 38 colonies in good condition in the middle of May, and I have increased them to 58, and stocked the woods for miles around with runaway swarms; but they will soon wish they had stayed at home, when Jack Frost lets the mercury down out of sight. It looks now as if I would have 3,000 pounds of surplus, one-half of it comb honey in sections, and the rest extracted.

My apiary is 18 miles away, and my cranberries require a great deal of attention, so that I cannot plan very scientific management for the bees, but I do the best I can for them. The result is perfectly satisfactory.

Duester, Wis., Aug. 28, 1888.

ON THE SCALES.

Testing the Storing Qualities of the Bees for Years.

Written for the Farmer and Dairyman

BY D. KAUFFMAN.

I have had one of the best colonies in my apiary on a scale during the last six years, and in 1886 I marked down the amount gained for the day every night, and also kept a close watch on the amount of surplus honey stored, and from this I found that when bees gain from one to three pounds, about one-quarter of the gain is stored as surplus honey, and when the gain is from 3 to 8 pounds, about one-half is stored as surplus honey, and from the record kept for this season, about two-thirds was stored as surplus honey. These experiments were all made for extracted honey.

But it seems to me that the rearing of brood would not have anything to do with the gain of a colony of bees, for if the bees did not feed the brood it would not gain in weight, and if they take the feed from within the hive, it would not get any heavier on account of the brood; but it would make a difference in the amount of surplus honey stored, and when bees gain from 10 to 16 pounds per day they will lose from 3 to 5 pounds during the night; and should the next two or three days be cool or rainy, so that the bees could not fly, the bees would lose about 3 pounds in the first 24 hours, 2 pounds in the second, 1 pound in the third, and ½ pound in the fourth day.

This loss is caused by the evaporation of the honey, and I think it is nearly as great when bees gather honey as it is when they do not, so that this would make the actual weight carried in by the bees during one day from 3 to 5 pounds more than the scales would show by weighing the hive in the morning and again in the evening; and I believe that when bees gain at such rates the old ones wear out as fast as the young ones come on, for they fill up the brood-combs with honey as fast as the young bees hatch, so that the queen will not be able to find any empty cells to put any eggs in, especially when running for comb honey.

I believe there were one-fourth less flying, or working bees in my apiary, at the close of the honey season than there were when I first put the scales under the hive on July 28, and three-fourths less brood.

I think that it is a great help to have a hive placed on a scale during the

honey season, for you can tell just what your bees are doing, and how fast you will have to get your sections ready to put on, how much more room they need, etc., from two to five days sooner than you would if you had no scales, and these few days would amount to several hundred pounds of honey for each day in an apiary of from 50 to 100 hives.

GEORGIA HONEY.

"Pleasantries" About the Production of Honey.

Written for the American Bee Journal
BY W. H. PRIOR.

An item on "Honey in Georgia," has been going the rounds of late through the secular press, and has been copied by some bee-papers. I also notice on page 460 of the AMERICAN BEE JOURNAL, the management of an apiary by Ben Foggy, of Iowa, who makes honey, according to his fancy, by "moonshine."

Now I cannot produce honey like Ben Foggy, or my Georgia neighbor who has a grove of trees which he taps and gets the honey by the barrel. Certainly the Iowa man, as well as my Georgia friend, were out of employment, and acting up the old adage, that when you tell one, tell a big one, they indulged their imaginary genius in fabricating these sweet pleasantries—like the "Wily scientific pleasantry" in fabrication, but unlike that pleasantry in that they were not intended for the purpose of, nor could in any way injure apiculture in the least.

But laying all jest and pleasantry aside, Georgia (especially middle Georgia) is as well adapted to apiculture and the production of honey, as any country in the world, Italy not excepted. Our climate is almost the counterpart of that salubrious climate so much admired by travelers, and so beautifully described by writers of both prose and poetry.

The cultivation of "king cotton" has so absorbed the minds and energies of the yeomanry of the Sunny South for several generations past, that they have neglected and almost ignored every other rural industry; and this has been to the detriment of themselves and families, and almost to the irreparable ruin of this Heavenly favored Sunny South land of ours, by making barren wastes and gapping gullies on almost every hillside.

Once these fields were as fertile (and the most of them are still capable of as high a state of cultivation) as any land North, East or West. This has been demonstrated and proved beyond a doubt, not only by special tests, but by numerous and extensive experiments. The people are awaking to their best interests, and diversified farming—the dairy and other industries—are springing up on every hand. Northern capital is fast seeking investment with us, opening up industries which of course will give us a better home market for our honey, butter, fruits, vegetables and the like. The want of a home market, and the lack of railroad facilities has been a great drawback in the production of these things. The opening of new lines of railway, a great deal of which has been done within the past few years, the reduction of freight, the preparation of refrigerator cars, etc., is working a revolution in this respect.

Middle Georgia as a Honey Country.

Middle Georgia is specially adapted to apiculture. Our winters are comparatively short and mild. The mercury rarely ever reaching zero. We hardly know what it is for it to go below zero, and the cold spells are generally of but short duration, there being scarcely a week during winter but that the bees can have a cleansing, sunny flight if they so desire.

We have no need of a cellar, house or even chaff hives; all that is needed for safe wintering is a good colony with enough honey to last them from November to March 1. By feeding the last of February and the first of March, for stimulating brood-rearing, one can have full colonies ready for work as early as from the first to the middle of April. My first swarm came out and was hived on Saturday, April 7. With empty frames to start with, in ten days they had the frames below filled with brood and honey, and were working in the upper sections.

Our honey harvest is during the months of April, May and June, although the bees can live by foraging from March to November. Thus it will be seen that we could save the cream of our honey harvest, and then sell and ship some colonies to the North in time for the beginning of the honey harvest there.

Honey-Yielding Plants of Georgia.

While I suppose we have nothing equal to the basswood of the North and Northwest, yet we have the great advantage of a greater length of time for the honey-flow, and a greater variety of honey-producing plants. Our poplar is almost as good as basswood. We have willow, besides other swamp growth and wild flowers that furnish the precious nectar. These come along in April and May. Apples, pears, plums and the like bloom in March. Later on we have the field pea—almost as good as red clover—being of the clover family a leguminous plant, which grows to perfection with but little labor, and is a fine stock feed, both pea and vine, besides the best renovator of worn soil, red clover not excepted.

Then red clover will also grow well here, if properly managed and fertilized. I have had it to grow from 2 to 3 feet high, and yield from 3 to 5 tons of good hay per acre. I shall sow more this fall than ever, and mix Alsike clover with it. Alsike is said to be better for bees than the red, and that Alsike will grow anywhere that the red will. I shall give it a trial anyway.

We have a little white clover that grows wild, to be found almost anywhere, that furnishes considerable honey during the month of June. Our cotton—and we have thousands of acres in full bloom from the middle of July to the middle of October—furnishes enough for the bees to live on during this time. It is very light in color, and finely flavored. The meagre supply scattered over so large a territory gives but little surplus, but enough to keep the bees from consuming their already garnered winter supply. If the second crop of Alsike and red clover blossoms should prove with us what is claimed for it in the North and Northwest, we can have a July crop of honey that would make our honey harvest last from April 1 to Aug. 1. I shall sow at least ten acres of the two mixed this fall, and give it a fair test.

There are but few apiarists in this country, but quite a number of bee-keepers using the old-fashioned box-gum, not knowing a queen from a king bee. Dr. J. P. H. Brown, of Augusta, Ga., one of the most noted apiarists of the South, has already taken, this season, 125 pounds of surplus honey from one Italian colony. Of course this is a phenomenal yield for one colony, but from 75 to 100 pounds have been frequently obtained in Georgia. Of course, with us as at the North, every year is not a honey year, but we never have an entire failure, always having some surplus.

With our natural advantages of climate, and many honey-producing plants, with practical and scientific knowledge of apiculture, producing artificial pasturage for bees, combining the business with stock husbandry—certainly Georgia could be made a land that would with "milk and honey flow."

Madison, Ga., Aug. 1, 1888.

IN COUNCIL.

The N. W. Illinois and S. W. Wisconsin Convention.

Written for the Forreston, Ills., Herald
BY THE SECRETARY.

The bee-keepers of Northwestern Illinois and Southwestern Wisconsin met by appointment at Leaf River, Ills., on Tuesday, Aug. 21, 1888, the President, L. Highbarger, in the chair.

It being a very busy season among the farmers, there was not a very large attendance. A few of the most prominent men of the association were present, and their able discussions made it a very pleasant meeting.

Some time was spent by the visitors in examining the methods and looking over the well-kept apiary of the President of the association, Mr. Highbarger. His colony of newly-imported bees elicited the admiration of all present, and the queens of this species will be at a premium among the members in the future.

Bee conventions are modern societies, and bee-culture is a modern science. Thirty years ago a bee keepers' association was never thought of; to-day they are found in every progressive country of the globe. The person who will take the time to look over the records of the past thirty years, will

discover some of the benefits derived from these associations. No single individual has been able to discover all the intricacies concerning any one thing of the method of the bee. So the benefits of sociability and meeting with friends and neighbors, and the exchange of discoveries that have been made by the members are appreciated in this organization as well as in any other.

The questions for discussion before the society were:

1. "Which is more preferable for the bee-master, to supersede the old queen, or let the bees do it?" It was decided in favor of the master doing it.

2. "Can a queen that produces all three-banded bees be a hybrid?" Answer: No; by a letter read from the *Bee Journal*, by Frank Benton.

3. "Will mixed bees work better than bees all from one colony?"

4. "Do bees do better in hives faced in one direction than another?"

These questions were ably discussed by the members, after which the meeting adjourned, to be called in May, 1889.

SWARMING.

Do Bees Select a Habitation Before Swarming?

Written for the American Bee Journal

BY JAMES F. WOOD.

I have read the articles on the above subject with much interest, and as far as my observation has gone, I think that each writer has been partially right. I will give my experience with a few of the most striking cases that I have personally witnessed.

When a boy of about 16 years of age, I had a great desire to learn all I could concerning bees and their habits, and after reading and re-reading all the books until I knew them nearly by heart, I coucluded to stock an apiary with Italian bees. Not having the funds to purchase bees, I set out to get my bees from the woods, and at that time there were many of my neighbors who kept bees, and many swarms escaped to the woods. Now for the facts:

A neighbor had a swarm that clustered where they could not be reached, and I was informed of this fact, and directly went to the place to watch the swarm and chase them to the tree when they left. I did not have to wait long before they started, and with some difficulty I managed to keep in sight of the bees until I saw them enter the tree about a mile distant. This was in 1875. The same year I followed the lines that several swarms had been known to have gone, but I never found but one more by following the direction they started from the hive.

But on this side of the question I have still the best evidence that I have yet seen printed. It occurred this season in a neighboring town. I went to purchase some bees of a friend, and while looking at the bees, a large swarm issued, and without alighting it went about 15 rods *directly* to an old hive, where a colony had died the winter before. This swarm did not fly around after it issued, but as soon as it got out, it went direct to this hive, and nearly half of them were in the hive when we went to it. But this by no means proves that bees "pick out" a home before leaving the parent hive. But it looks pretty clear that the last-mentioned swarm knew where they were going before leaving the hive; and that the first-mentioned swarm knew where they were going before leaving the limb where they had clustered.

I might add that the scouts sent out, and those that returned, seemed to nearly all go and come from the direction of this tree that the bees selected for their home. I noticed this to such an extent that I remarked to several that I was pretty sure the bees would go in that direction, as they afterward did.

One writer has said that bees sometimes will fly for days and keep alighting and searching for a home. This is true also, as I can testify. I knew a small swarm to issue and fly off about two miles before alighting. Here they hung for two days on a limb, and flew about a mile and alighted again. They kept flying around for a week in the neighborhood, and finally settled in a tree not 20 rods from where they started. This was late in the season (the latter part of August). This swarm was not kept in sight all the time, but owing to the fact that it is rare that swarms issue so late in this locality, the size of the swarm, and that it was seen by many people flying back and forth, I think there is little doubt that it was all one and the same swarm.

I have several times found swarms clustered miles away from where any bees were kept, and have several times chased swarms until they finally lighted on some tree or bush instead of going to a tree. My conclusion of the whole is this: Bees sometimes go direct to the new home without alighting, but not often; and that others will alight and then send out scouts; then, if successful, they will go direct to the new home. But the majority of swarms that escape, fly and alight several times before they find a home; and I have the best of reasons to believe that they often get ten, and even twenty, miles from the parent hive before they settle in their new home.

North Prescott, Mass.

RIGHTS OF BEES.

Have the Bees a Right to the Nectar of the Raspberries?

Written for the American Bee Journal

BY JAMES M'NEILL.

I have been a member of the Bee-Keepers' Union since its inception, and have paid my dues each year without any thought that I should be obliged to invoke the aid of the Union in the defense of my rights, as I had kept bees for a number of years without any serious complaint from my neighbors. But the situation is changed now at my out apiary, and one of my neighbors declares that it is his purpose to collect damage for the injury which our bees have done his raspberries.

Three years ago he set out about half an acre of raspberries of the red Antwerp variety. He made no serious complaint about the bees during the first two years; but the present season, toward the close of the raspberry harvest, a severe dry spell left the bees without any forage, and the same cause, I suppose, tended to ripen the berries faster than the owner could take care of them. The result was that the bees worked upon his raspberry patch, as he says; not only destroying his fruit, but stinging the pickers, so that many of them refused to pick, and he could not get pickers to take care of the fruit.

He claims that our bees have done him $150 worth of damage during the past three seasons. He made no serious complaint to me during the first two years, simply asking once in awhile, as I supposed in a half joking way, what we were going to pay him for bee-pasturage. Nor during the greater portion of his berry harvest this year did he make any complaint about the bees, though we passed by when he was picking every day. But meeting him on July 31, he declared that the bees had become an intolerable nuisance—that they were eating his berries up and driving his pickers away, and that even after the berries were in the baskets, they stuck at them and destroyed many.

We drove down the same day to look over the berry patch, and we found, as we supposed we should, that the berry season was about over, and great quantities of over-ripe and dried-up berries hanging on the bushes. Of course the bees were on them, but wasps and hornets were there as well. Certainly no one but those who had a senseless fear of bees, need have been afraid to go among the bushes, as a slight jar would cause the bees to fly away.

There were a couple of crates of berries standing at the ends of the rows, and the women of the household were crying out that the bees would eat them up if they were not taken away. We opened the crates, and found perhaps 6 to 10 bees in each basket; but a slight jar would cause them to fly harmlessly away.

We called upon a neighbor of this man who has berries of the same variety, to find out if the bees troubled his patch, and he made no complaint. He said if the berries were not allowed to get over-ripe, the bees were not troublesome, and if they were upon a bush, a slight jar would cause them to fly harmlessly away. On the other hand, the man who works the farm where our bees are, and who has a patch of the same kind of berries, said that while he had no cause for complaint last year, this year he found the bees very troublesome.

The fact in this man's case we knew was, that he had so much to do that he neglected his berries until they were over-ripe. When we told these men that if they picked their berries when they should be picked, they would have

no trouble with the bees, they replied that they had the right to pick their berries when they saw fit to do so. But it seems to me that they have not ethically such a complete control of their possessions against bees as they have against domestic stock.

If my cattle break down my fence and get into my neighbor's fields, I am justly liable for any damage that they may do, for it is my business to keep my fence in good repair. But bees cannot be thus restrained. They roam at will, and however much we would like to prevent them from visiting our neighbors' berries and fruit, we are powerless in the matter.

Now bee-keeping being a highly useful industry, its peculiarities should be recognized in the laws of the land. The greatest good to the greatest number should control here as elsewhere in society; and if the fruit-grower can be as exacting in his rights and privileges against bees as against other forms of trespass, the effect would be to drive bee-keepers out of the business.

The "greatest good to the greatest number" would not be conserved by such a policy, for it is even better for the community that the fruit-grower should suffer than that the industry of bee-keeping should be proscribed.

When the fruit-grower claims the right of planting anything that he likes, and gathering his crop whenever it suits his convenience, law should step in and say: that is your undoubted right to the extent that it does not conflict with the higher law of "the greatest good to the greatest number," but when it does so conflict, individual rights must give way to the best interest of the community. I am not posted in the law as regards this matter, but it seems to me that this is a common-sense view of it.

It is decidedly disagreeable to me to have any difficulty with my neighbor. I would much prefer to pay a reasonble claim for damages than to sustain a suit at law, but I forsee that if I recognize this man's claim for damages, I will have to recognize his neighbor's claims also, and if I pay damages this year, I may have to do the same for years to come, and with such a prospect before me, I should certainly be compelled to give up the business, for in its present status, it would not stand such a tax.

Hudson, N. Y.

[It is true that the bees and their keepers have rights, and it is equally true that the owners of surrounding lands have rights. To get at, and carry out to their legitimate result these rights all around, is the difficulty. As General Manager of the National Bee-Keepers' Union, we have advised Mr. McNeill as to what course to pursue, and we have no doubt that the whole affair will be amicably settled—at least we hope so.

The thoughtful reader will find much to interest him in the article from Dr. Miller, on page 583 of this issue, on this important subject.—Ed.

EXTRACTED HONEY.

Its Purity, Granulation, Uses, and Production.

Written for the American Agriculturist

BY A. H. DUFF.

Extracted honey is coming into general favor. The fear of adulteration has been the great obstacle to its sale, but this is now largely dispelled, and people are taking hold of the article with more confidence. It is only necessary for consumers to consider a moment to convince themselves that at the present prices for which extracted honey is sold, it would be impossible to produce any substitute that would cost less. In earlier times, when honey would bring from 25 to 35 cents per pound, there was an inducement to adulterate; but when honey brings only 10 or 12 cents it is impossible to substitute any article with a salable appearance except at a cost that would not exceed the price. Every bee-keeper well knows that adulteration is a death blow to his own industry, and when adulteration was common, it was doubtless safe to lay the blame upon the middleman and not on the producer.

It has been asserted that adulteration is brought about by the bee-keeper feeding sugar and syrup to the bees. This is impossible, for the reason that sugar and syrup feeding will never produce honey. It will simply be sugar syrup stored in the combs, and will not be changed in flavor. The fact that bee-keepers feed sugar to their bees creates misapprehension among the inexperienced. It is of the utmost importance at certain seasons of the year to feed bees, but it is only to maintain life, or to stimulate brood-rearing, and it is done late in the fall and early in the spring.

The cost of feed brings this to an end as soon as the colony is in a fair condition. This feed is all consumed in the brood-nest, and not a particle of it ever reaches the surplus boxes. When honey is abundant in the flowers, and the bees have access to it, they cannot be led away by any cheap sugars or syrups. It would be folly to furnish food at a high rate, when honey-producing flowers are supplying the real nectar in excessive quantities.

Extracted honey can be secured in greater quantities than comb honey under the same conditions, and at a much less cost. The saving of comb is quite an item, for to produce wax involves the consumption of large quantities of honey. It has been estimated that 20 pounds of honey are sacrificed in producing one pound of wax or comb. The convenience of handling extracted honey, and the ease with which it can be kept any length of time in good condition, are greatly in its favor.

The granulation of extracted honey has heretofore interfered with its sale and use, but it is now pretty well understood that all pure honey will granulate, and in this condition it is preferred by many to the liquid form.

In extracting, the different varieties of honey produced from different blossoms can be kept separate, and the entire crop graded. Most people think there is but one kind of honey, and when they see two different colors they conclude one of them is not right. It is impossible to enumerate the different varieties, flavors and shades of honey, but we may safely say that in any one locality there may be twenty different kinds, at least as many as we have different genera of flowers.

All honey when taken from the hives should be stored away high and dry in buildings. Never use a cellar nor any damp place for this purpose. Dampness will spoil honey, but heat never will.

Creighton, Ohio.

COMB HONEY.

My Favorite Management, and How to Obtain It.

Written for the American Bee Journal

BY WESLEY DIBBLE.

I commenced using the new Heddon hive in 1886, which was considered a poor season here. I obtained more finished and marketable honey with it than with the hive I had used for 7 years previous, and I may add, more honey than any other bee-man with any hive in this territory produced, to my knowledge. I used it according to directions given by its inventor, which was a box on a single story. I, of course, was well pleased with the result the first summer.

I neglected to feed my bees in the fall, and put the bees into the cellar on Nov. 14, 1886, which were in the reversible and the Langstroth hives. The result on May 1, 1887, was that I had lost 50 colonies in the reversible hive, while those in the Langstroth wintered well.

I will say here that I had always wintered bees perfectly before, and the bees consumed so little honey that I did not see the necessity of feeding those in the reversible hives in the fall. The colonies in reversible hives went into the cellar very light, while those in Langstroth hives were heavy. In view of all of the above loss, I was not discouraged with the hive.

In 1887 I filled the hives again with bees, and used them mostly with both stories the second season. About June 1, 1887, I commenced to change the lower section or half-hive to the top, and the top one below. I practiced this once in seven or eight days, for four times, and some of them oftener. When the upper story was loaded with honey, I put it below as late as Aug. 1.

I did not get a natural swarm from the reversible hive in 1887. I put them into the cellar again on Nov. 19, 1887, with both chambers of the hives well filled with bees and honey. The bees wintered perfectly, and now, on July 27, 1888, with the same management as last summer, the colonies in these hives are ahead of anything I know of in this part of the country, in storing honey in sections; and I have had one swarm from 50 colonies.

About finding the queen: I am not telling what I can do, but what I have done. My wife and myself clipped the wings of 50 queens in reversible hives in less than two hours, in my home yard. I have another yard seven miles from here, with 73 colonies, spring count, and it required 1½ days to accomplish the clipping. The wings of the queens of both yards ought to have been clipped sooner, or before the hives were so full of bees; but I care but little about the quantity of bees with the reversible hive—I can find the queen 19 times in 20 almost instantly, while I have searched one hour for a queen in the other hives, and then shut them up till some other time, without finding her, especially a black queen.

Middleburgh, N. Y.

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Sept. 6.—Bees and Poultry, at New Brunswick, Ind.
Ora Knowlton, Sec., New Brunswick, Ind.

Sept. 8.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

Oct. 3-5.—North American, at Columbus, O.
W. Z. Hutchinson, Sec., Flint, Mich.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Bees Doing Well.—L. Highbarger, Leaf River, Ills., on Aug. 28, 1888, says:

Bees are doing well at present on asters and heart's-ease. If it so continues I expect to get some surplus honey besides my increase of bees. I increased my apiary from 18 colonies to 50.

Bees Making a Living.—M. O. Tuttle, Osage, Iowa, on Aug. 28, 1888, says:

Bees in this section are going to make a living for themselves, but not for their keepers, unless we rob them. During the last of June and all of July, there was just honey enough to stimulate swarming, but not enough to get any surplus. There will not be comb honey here to one-tenth part supply our home market. Perhaps we can get the people educated to use extracted honey, while they can get nothing else. Honey from buckwheat, golden-rod and other fall flowers is as plenty now as any time this season.

The Ignorant Bee-Keepers.—J. W. Tefft, Collamer, N. Y., writes:

That class of bee-keepers who do not take good bee-papers—who read no books on honey-bees—have no business with bees, as bees have no business with them. They abuse the profession. No argument can convince them. They are so habituated to intrigue and mystery, and are prone to accept a plain fact, but will dodge the road to common-sense. They will not pause to deliberate upon and minutely scrutinize divers errors committed, and opportunities neglected, whereby he would wish to account for the total failure of his enterprise. After they have lost there bees, and are "upset," they will whine, and say that it all happened because of other's business, and that the weather was very heavy; when in fact the waters were very deep, the night very dark, and the intellect very muddy. Such condemn reversible frames, not knowing what they are talking about.

The plain fact of the business is, all such cases are unfortunate. Bee-keeping can only be achieved by those who, like Dzierzon of old, "pay the costly price for the brilliant meed of honor," by discipline, self-control, and a boundless enthusiasm for the art.

Working on Heart's-Ease.—W. H. Martin, Falls City, Nebr., on Aug. 25, 1888, says:

We have had plenty of rain in this vicinity this summer, and bees are working on heart's-ease, which is abundant in nearly all stubble fields.

Make Our Cause Strong.—J. W. Winder, New Orleans, La., on Aug. 28, 1888, writes:

The houey crop is short again in this portion of the State. Too much rain has not been conducive to the usual yield, so dollars for the "Union" will be scarce from this source. But as our pursuit must be defended against ignorance and wrong, I send in my dollar, to help make our cause strong.

Wet Summer and Small Crop.—Wm. B. McCormick, Uniontown, Pa., on Aug. 28, 1888, writes:

I had my back badly strained some three weeks ago, by being thrown from a wagon. I am now able to walk about again, but I have not sufficient strength to attend to my bees. Our prospects for a good crop of honey in the spring were very bright, as the bees all came through the winter in prime condition, with abundance of honey. Fruit bloom, etc., was good, as well as the weather, and nearly all of my 40 colonies commenced working in the sections; but, alas, alas, our hopes were all blasted, for the white clover (our main and only source for surplus) was a perfect failure, and since July 1, our bees have scarcely made a living. My crop will amount to about 1,000 pounds of comb honey, most of it being dark, and the sections not very well filled. We have had a very wet summer.

Pleased with the Union's Success.—D. Millard, Mendon, Mich., on Aug. 25, 1888, writes:

I am much pleased with Z. A. Clark's success, and I sincerely hope that he will come out ahead in the final contest. I am, however, much opposed to keeping large apiaries in thickly settled corporations; for if they are not a great public nuisance, they are often a source of great annoyance to one's nearest neighbors—the very ones with whom we should sustain the most amicable relations. I joined the Union, and gave my first dollar to assist in squelching the absurd idea that bees ever annoyed sheep. My second dollar went to assist in proving that bees of themselves never destroy grapes. I now send another dollar hoping that it will aid in "pushing to the wall" any would-be scientific professor, clergyman, idiots, or those who will persist in vilifying honey-producers. There is no more positive evideuce of ignorance or dishonesty than to be persistently accusing others.

The season is a failure here with us. There is very little or no white clover, only a light bloom of linden, and the weather is too dry for buckwheat and fall bloom. I have no honey to sell, and but little increase.

Honey and Beeswax Market.

NEW YORK.

HONEY.—Market is bare of extracted, but choice white clover or basswood will bring from 7½@8c. Southern extracted, 55@60c. per gallon, as to quality.
BEESWAX.—Dull at 23c.
Aug. 23. HILDRETH BROS. & SEGELKEN, 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@15c.; 2-lbs., 11 to 14 cts.; amber, 7@9c. Extracted, white, 5¼@6c.; light amber, 5@5¼c.; amber and candied, 4¼@4¾c. Receipts light and market firm for best qualities.
BEESWAX.—17@21c.
Aug. 25. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best new white comb, 15@16c, with little in sight and slow sales. Market is low, and beekeepers will do better to hold honey until approach of cold weather.
BEESWAX.—21@22c. Supply limited.
Aug. 22. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—New crop offered at 16@17c., demand being very light yet. Extracted is not in much demand, and prices are nominal at 7@8c. for the best grades.
BEESWAX,—22c.
Aug. 14. R. A. BURNETT, 161 South Water St.

CHICAGO.

HONEY.—None here, and market in good condition for new crop. There is some demand for the extracted.
BEESWAX.—22c.
Aug. 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c. Some small lots have sold at 14@16c. Market quiet.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Aug. 24. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices firm, and stock light.
BEESWAX.—None in market.
Aug. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—The market is not yet established, and very little new honey has arrived. From the crop reports, prices will be as high, and perhaps may be somewhat higher than last year. Reliable quotations cannot be given yet, but there is good demand for extracted. We quote choice white clover and basswood extracted at 7½@8½c.
Aug. 29. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: New 1-lb. sections, 18@20c.; 2-lbs., 14@16c. New extracted, 8@10c.
BEESWAX.—25 cts. per lb
Aug. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 5½ cents; light, 5¼c.; amber, 4½@5c. Comb, 1-lbs., 12@14c.; 2-lbs., 9@13c., as to quality. Arrivals not large, and supplies held firmly.
BEESWAX.—Dull at 19@22c.
Aug. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: White 1-lbs., unglassed, 18 to 20 cts.; 2-lbs., 15@16c. California white 1-lbs., 18c.; 2-lbs., 15c.; extracted, white, 8c.—amber, 7c.
BEESWAX.—None on the market.
Aug. 10. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, dark, 4@4¾c.; bright, 5@5½c.; in cans, 7@8c. Comb, white clover in prime condition, 13½@15c.; dark, 11½@12½ cts.—Market quiet, demand good and receipts light.
BEESWAX.—22c. for prime.
Aug. 10. D. G. TUTT & CO., Commercial St.

MILWAUKEE.

HONEY.—New white 1-lb. sections 18c., and very fine, 20c.; 1-lbs. 15@18c.; old 2 and 3 lbs., not salable, 12½@14c.; dark 1-lbs., old or new, 12@13c. Extracted, new white in kegs and ½-barrels, 8@9c.; old, in same packages, 7@8c.; in tin, 8@9c.; dark in barrels or ½-barrels, 6@6½c. Arrivals of new crop small; demand not urgent, and only very moderate trade.
BEESWAX.—22@25c.
Aug. 31. A. V. BISHOP, 142 W. Water S.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

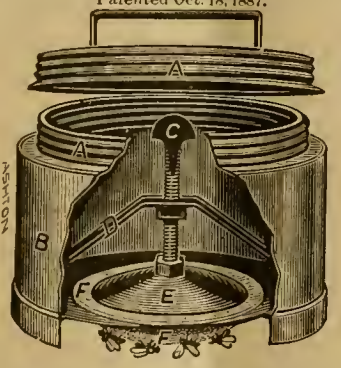
Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Hastings' Perfection Feeder.—This Feeder (illustrated) will hold 2 quarts, and the letting down of the feed is regulated



by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Convention Notices.

☞ The Darke County Bee-Keepers' Society will hold a basket meeting on the Greenville Fair Grounds, on Friday, Sept. 7, 1888..
J. A. ROE, *Sec.*

☞ The North American Bee-Keepers' Society will meet at Columbus, O., on Wednesday, October 3, 1888, and continue as usual in session for three days. W. Z. HUTCHINSON, *Sec.*

☞ The next semi-annual meeting of the Joint Bee and Poultry Keepers' Association of Boone and Hendricks counties will be held at the apiary of Wm. H. Higgins, 2½ miles south of east from New Brunswick, Ind., on Thursday, Sept. 6, 1888. All interested are cordially invited to attend.
ORA KNOWLTON, *Sec.*

☞ The Susquehanna County Bee-Keepers' Association will meet in the Court House at Montrose, Pa., on Saturday, Sept. 8, 1888, at 10 a.m., Sharp. The following subjects will be considered: Preparing Bees for winter; Preparing for, and Marketing, Surplus Honey; Does the Raising of Small Fruit Conflict with Bee-Keeping? All bee-keepers are cordially invited to attend. H. M. SEELEY, *Sec.*

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Advertisements.

LANGSTROTH FUND.

A **GOOD** full-length PHOTOGRAPH of Rev. L. L. Langstroth, mounted on cabinet card, will be sent to any address for **50 cts**—one-half to go to the "Langstroth Fund." Address,
THOMAS B. REYNOLDS,
36A2t Box 356, DAYTON, OHIO.
Mention the American Bee Journal.

BEES FOR SALE.—24 COLONIES in improved movable-frame hives. For terms and particulars, write to
REV. J. D. GEHRING,
36A2t PARKVILLE, Platte Co., MO.
Mention the American Bee Journal.

TESTED GOLDEN ITALIAN QUEENS.

ONE Queen, $1.00; 2 Queens, $1.80; three Queens, $2.60; one-half dozen, $5.00. By **Return Mail.** **HENRY ALLEY,**
36A3t WENHAM, MASS.
Mention the American Bee Journal.

GREAT BARGAIN!

ONLY $2.50 per Colony—10-frame hives. For particulars address,
36A1t **J. J. ROE, Buchanan, Mich.**
Mention the American Bee Journal.

HONEY.

WE advise Bee-Keepers not to sell before getting our high prices.
State quality, quantity and style of packages; send samples of **Extracted,** with the sender's name marked on the same.
F. G. STROHMEYER & CO.,
36A4t 122 Water St., NEW YORK, N. Y.
Mention the American Bee Journal.

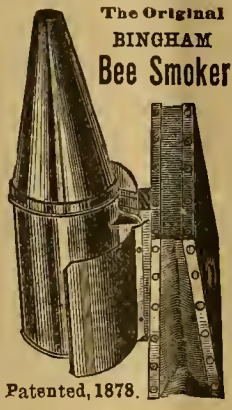
We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

CARNIOLAN

Gentlest bees known; not surpassed as workers even by the wicked races.
Imported Queens, "A" grade, $6.00, Tested, $4.00; Untested, $1.00,

QUEENS.

One-half dozen $5 00
Never saw foul brood. Cash always required before filling an order.
S. W. MORRISON, M. D.,
14Etf. Oxford, Chester Co., Pa.



The Original
BINGHAM
Bee Smoker
Patented, 1878.

ADDISON, Vt.—Have one of your smokers good yet—used 6 years. E. J. SMITH.
ELM GROVE, Mass.—Have one I have used six seasons—good yet. F. M. TAINTOR.
BORODINO, N. Y., Aug. 15, 1882.—All summer long it has been "which and t'other" with me and the Cyprian colony of bees I have—but at last I am boss—Bingham's Conqueror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. G. M. DOOLITTLE.

Bingham & Hetherington Uncapping Knife.

Patented May 20, 1879.

BINGHAM SMOKERS and KNIVES have Revolutionized the Smoker and Knife Trade, and have made bee-keeping a pleasure and a success. They are the only **lasting** and **satisfactory** Smokers and Knives now used by experienced bee-keepers in Europe, Australia, Cuba, and America. They are covered by patents, and while they are always the **best** that can be made, they are also the **lowest priced.**

Prices, by mail, post-paid.

Doctor smoker (wide shield)	3¼ inch	..	$2 00
Conqueror smoker (wide shield)	3 "	..	1 75
Large smoker (wide shield)	2½ "	..	1 50
Extra smoker (wide shield)	2 "	..	1 25
Plain smoker	2 "	..	1 00
Little Wonder smoker	1¾ "	..	65
Bingham & Hetherington Honey Knife, 2 inch			1 15

TO SELL AGAIN, apply for dozen or half dozen rates. Address,
BINGHAM & HETHERINGTON,
5Atf **AHKONIA, MICH.**
Mention the American Bee Journal.

BEE-KEEPERS' GUIDE;

EVERY Farmer and Bee-Keeper should have it. The
15th 1,000, Wholly Revised!
MUCH ENLARGED!
Contains many more beautiful Illustrations and is *up to date.* It is both PRACTICAL and SCIENTIFIC.
Prices: By mail, $1.50. To dealers, $1.00. In 100 lots, by freight, 50 per cent. off.
Address,
A. J. COOK,
35Atf **Agricultural College, Mich.**
Mention the American Bee Journal.

JUST PUBLISHED,
"PRACTICAL TURKEY RAISING"
By Fanny Field. This book tells all about turkey raising, from the setting of the eggs to the maturity of the young turks. If you follow the directions in this book you need not lose a bird. Fanny Field has had more experience and succeeds better in raising turkeys than any other person in America. She clears hundreds of dollars yearly on them, and will tell you how she does it. Price, 25 cents. Stamps taken. Address R. B. MITCHELL Publisher, 69 Dearborn St., Chicago, Ill.
31C2t
Mention the American Bee Journal.

BEE-KEEPERS' SUPPLIES.

HIVES, Sections, Foundation, Smokers, Frames, Crates, &c., furnished at greatly reduced rates. Also **ITALIAN BEES and QUEENS** at very low prices. Send for my Catalogue. Address,
A. F. STAUFFER,
29Ctf STERLING, ILLINOIS.
Mention the American Bee Journal.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send a sample copy of the **Semi-Monthly Gleanings in Bee-Culture,** with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Comb Foundation, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address *written plainly,* to
A. I. ROOT, Medina, Ohio.
Mention the American Bee Journal.

HEAD-QUARTERS IN THE SOUTH.

FACTORY OF
BEE HIVES, &C.

Early Nuclei & Italian Queens.
☞ Tenth annual Catalogue now ready.
5Ctf **PAUL L. VIALLON,** Bayou Goula, La.
Mention the American Bee Journal.

Barnes' Foot-Power Machinery.

Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free. Address, W. F. & JOHN BARNES,
45Ctf No. 484 Ruby St., Rockford, Ill.
Mention the American Bee Journal.

EXTRACTED HONEY.

WE are buying **WHITE EXTRACTED HONEY.** Those having any for sale, are invited to correspond with us, stating the quality, flavor and price.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

SELECTED Tested Breeding Queens, only $1.00 by return mail; 2-frame Nuclei with same Queens, $2.50 each—two for $4.00. Also **HIVES** for sale **cheap.** Address at once, **S. F. REED,**
36A1t NORTH DORCHESTER, N. H.
Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Sept. 12, 1888. No. 37.

EDITORIAL BUZZINGS.

"**There is** a language in each flower
That opens to the eye;
A voiceless but a magic power
Doth in earth's blossoms lie."

A Dark, Warm Room is the best place in which to keep comb honey, in order to preserve its whiteness, and keep it from "gathering moisture." The temperature should be kept from 80 to 85 degrees.

Home-Made is the term claimed by two bee-papers. The editor of the *Review* is its compositor, foreman, "devil" and proof-reader in his own office, and his wife and children assist in getting the papers into the mails. The editor of the *Bee-Hive* fills all the offices mentioned, and does all the mechanical work as well. The work of each one reflects credit upon these brother editors. We wish them both success.

Mr. R. J. Kendall, with whose communications from Texas our readers were familiar 2 or 3 years ago, went to New Zealand and now has gone to Australia. His departure is thus noticed by the August number of the *Australasian Bee Journal:*

We are sorry to state that our friend and contributor, Mr. Kendall, has left for fresh fields. He has for some time contemplated returning to the United States, but finally made up his mind to try Victoria first, and left for Melbourne last month. Feeling very unsettled of late prevented him contributing to the *Journal* regularly, but he has promised to take up the running again as soon as he gets settled and has had time to see how things in the bee line are moving in Victoria. We shall be very pleased when that time comes, for Mr. Kendall is a very pleasant and amusing writer. We wish him every success.

Feeding Back, so called, is feeding the bees with extracted honey in sufficient quantity to induce them to finish up incomplete sections, in order to make them marketable. This has often been tried, but the loss of honey is so great that it is quickly given up in disgust.

The Virginia champion of "the Wiley lie" is persistent in his assertions that bee-keepers are feeding glucose to the bees for the purpose of having them deposit it in the combs and seal it up, so that the bee-men may put upon the market a fraudulent article of comb honey, and thus accommodate Wiley, Evans & Co., by giving them a shadow of excuse for their *cheap* but untruthful assertions concerning the existence of adulterated comb honey and of its being found upon the markets in large cities.

The price of the pure article of extracted honey and the best glucose is now very nearly the same, and for that reason it will not pay to adulterate extracted honey. As Wiley, Evans & Co. are driven from that position, they now want to find some glucosed comb honey on the market. But if the feeding back of pure extracted honey to make comb honey is an unprofitable business, the substitution of glucose (which is of about equal value) will not help the case! Both are alike unprofitable! Both are, therefore, commercially impracticable and financially impossible! Both "horns of the dilemma" refuse to support, or even to give color to the "vain imaginations" of these deluded mortals!

Commenting upon the experience of Mr. W. Z. Hutchinson in "Feeding Back," as given in the *Review*, of recent date, the *British Bee Journal* for Aug. 23, remarks as follows:

Ten or twelve years ago we experimented on feeding extracted honey to complete sections, but we soon found out that such a practice *would not pay at all*, and that it could only be done by an enormous waste of honey.

The experience of the most successful bee-keepers in America corresponds with that of our British cousins, and the uniform verdict is that *it will not pay to do so!*

Thus are the enemies of the pursuit of bee-keeping again beaten back! again made to "bite the dust"! again proven to be making cheap assertions concerning that of which they are in entire ignorance!—again exposed to public gaze as villifiers and traducers of an honest pursuit! and again and again we demand that they shall produce a sample crate of the article—or else acknowledge that their assertions are *falsehoods*, without excuse and without the least shadow of proof.

A Carton—which is a cover for a one-pound package of comb honey, is received from Mr. J. B. Hains, Bedford, O. It has a neat front, and on the back is a view of his apiary, and a selection from our Leaflet entitled "Why Eat Honey?" It is neat, attractive and withal inviting and instructive.

That New Invention a Failure.—On page 148 an announcement was made that Mr. Koerbs, a German, had invented a new comb; and on page 244 we stated that it was merely comb foundation "made on glass, wood, tin, card-board or other material, with the impression of cells in wax on one side, the other being left smooth." The intention is to have the cells of double length, the mid-rib or foundation being at one side.

Notwithstanding the fact that several bee-keepers of Germany had stated that they approved the invention, and our friend, C. J. H. Gravenhorst, editor of the *Bienen Zeitung*, had seen the combs "completed by the bees," and predicted a "revolution" in the matter of bee-comb, "even if the invention accomplishes but one-half of what is claimed by Mr. Koerbs"—still we made these remarks:

A great "splurge" was made at its announcement. There was a great ringing of the bell to announce the advent of the locomotive, but, alas, the coming of the engine created no enthusiasm. It is almost a useless affair, if not absolutely so. Here in America, at least, we have no use for such an invention! We can secure longer cells by simply spreading the combs, but even that is undesirable, because of the slower ripening of the honey, and the consequent hindrance to the bees.

We shall watch this matter closely, and keep our readers posted concerning its advent and revelation—and ring the bell just in time for all to witness the arrival of the locomotive!

Now comes this "conclusion," in a letter from Mr. Hj. Stallhammar, of Sweden, to the Canadian *Bee Journal:*

As regards the Koerb comb foundation (one-sided, with cells of double-depth), this Summer it has proven itself a failure, the queen filling the cells with eggs before the bees had drawn the cells out long enough; and, furthermore, when fastened on the one edge of the frame, the bees are inclined to build a new comb on the other edge of the same frame.

We had no confidence whatever in the invention, and so stated it at the time of its very peculiar announcement. Nothing else than a complete failure ought to have been expected by its friends.

The Honey Crop in California has been misrepresented by the Commercial *Bulletin*. It stated that "the yield in San Bernardino and San Diego counties will be the heaviest ever gathered." This does not conform with advices received in San Francisco, and the *Country Merchant* says that a local dealer who has just returned from a trip to Southern California, after making a careful canvass of the field in person, reports the yield of the counties in question will be, from present prospects, only about half that realized in 1886, and that in other sections of the State indications are that the proportion will be no greater.

The fact is, somebody has been trying to *bear* the market. But in spite of all such work the prices of both comb and extracted honey will *go up!*

GLEANS OF NEWS.

Bees as Educators.—Mrs. L. Harrison, in the *Prairie Farmer* of last week, gives the following very interesting article on the above subject:

EDUCATED EYES.—No sooner does a person become the owner of a colony of bees than he looks around to see what are the prospects of future gain. Heretofore he drove or rode along the highways, noticing the ruts, bridges, fences and houses, but now his vision takes in a wider range. His observation is quickened, and trees, shrubs and plants have put on new life, as it were, to his enlivened faculties. From the first opening buds in spring, until the last rustling leaf has fallen, his interest never lags, as he constantly watches the opening flowers, and notes with pleasure the busy workers roaming over them in quest of treasure to store in their hives.

NECTAR IN WEEDS.—What was to him once a useless weed, to be cut down with the scythe, or whacked off with a hoe, is clothed in beauty, and becomes a priceless treasure. Whoever saw any beauty in the figwort, or watched for the appearance of its tiny cupboard, looked down into their depths for the first appearance of sparkling nectar, but a bee-keeper? Or whoever saw any utility in Spanish-needles, or beggar-ticks? There is a bond of friendship existing between the bee-keeper and nectar-bearing plants, and they appear to spring up to greet him wherever he goes. The Indian calls white clover "The White Man's Foot," and well he may, for its modest flower soon appears as the harbinger of peace and plenty.

SOILS.—The interest thus awakened in plants, soon takes on a wider range, and extends to the soil. Seeds of sweet clover (melilot) are scattered on gravelly soil, take root, penetrating deeply, keep it from washing and dying and add to its fertility. Dreary wastes thus become clothed with verdure, adding to the beauty of the landscape and yielding choice nectar, fit food for gods. On a recent trip of a dozen miles on a railroad leading out from this city, we were agreeably surprised to find this plant growing luxuriantly nearly the whole distance, and some deep cuts were so covered with it that the soil couldn't be seen. It is to be hoped that the officers of railroads will appreciate the utility of this plant in keeping the soil from washing away and preventing damage and danger thereby, and foster its growth. I have seen the yellow variety of this plant growing on the borders of salt marshes on the shores of Long Island Sound.

MOISTURE.—Marshes and wet lands along rivers and water courses, come in for a share of attention by the bee-keeper. His eye quickly detects anything in the interest of his winged stock. If by digging a ditch and running off water the growth of favorite bee-plants is promoted, it is done. He then benefits his neighbors as well as himself, for, as the ground becomes dry, blue-grass and the clovers will take root, thus promoting grazing for stock, and malaria will disappear. New plants will spring up as if by magic, the button-bush (Cephalanthus occidentalis) growing in water. It seems as if the seeds of honey-plants rattled from the bee-keeper's clothes. The seed of many honey-plants is food for birds, which are our friends and co-workers in destroying many noxious insects.

EDUCATED EARS.—As seeing is cultivated by bee-culture, so is hearing—even all the senses are quickened, much better than they can be in a kindergarten. How soon the trained ear discovers the note of the robber, the sound of swarming, the piping of queens, and the happy hum of plenty, or the sorrowful moan, when the queen is lost. The sense of smell reveals the blooming of apples, as also the opening of the fragrant basswood, buckwheat, etc., and reveals the presence of that dire calamity, foul brood.

Bee-keeping is, therefore, not only a pleasant and profitable employment, but it tends to lift up and exalt the intellect, and educate the human senses.

Pleasantries.—Prof. Cook, on page 602 of this issue says that "the Wiley *lie*" was not a "scientific pleasantry"—there was nothing scientific about it. Instead of that, it was only a "glaring, mischievous error," clothed in "the garb of science!" The Professor is evidently correct. It is a libel to call it "scientific."

The Professor also gives some very emphatic decisions on honey being "digested nectar," and Mr. Paul L. Viallon, Bayou Goula, La., has sent us these criticisms on the matter, which came to hand since the page was "made up," which contains the Professor's article. He says:

I think Mr. Demaree gives us a pretty good "pleasantry" when he says on page 568: "Pure honey is nectar of flowers gathered by bees and reduced to proper consistency by the internal heat of the bee-hive. That's the whole of it." Will friend Demaree please to theorize on that question, and not let it remain in that crude state? As for the other part of the subject, he hits the nail pretty well.

Chapman Honey-Plant.—Mr. R. Bacon, Verona, N. Y., on Aug. 31, 1888, asks the following questions about the seed of the above-named plant:

Please inform me as to when is the best time to gather the seed from the Chapman honey-plant, and how to clean it. I obtained a small package of the seed, which I planted, and I find it to be one of the best—if not *the best*—of honey-plants. I believe that if bee-keepers would club together, and plant a large area with it, it would add immensely to our annual honey crop. I say "club together," for it will hardly pay one bee-keeper to plant it for all the surrounding apiarists, but all should help in bearing the expense, as all would reap the benefits.

We refer this question to Mr. H. Chapman for reply, which will probably appear in our next issue. Seed can be obtained at this office.

Another Bee Story.—The following is taken from the Chicago Daily *News*, and was sent to it by telegraph from Martin's Ferry, O., on Sept. 4, 1888. The bees must have been very numerous down there to have done so much cleaning up in so short a time. It says:

Mr. G. N. W. Stringer, a well-known and reliable farmer on Deep run, was in town to-day and told this wonderful bee story: Yesterday Mrs. Stringer boiled down forty gallons of cider to ten gallons, put it in four tin pans, and set them on a table out-of-doors to cool, covering the pans with a table-cloth. Five hours later she went to the table to take the cider in, and, much to her surprise, discovered that the bees had emptied every pan, sipping the cider through the table-cloth.

A Peculiar method of dispensing sweetness has been discovered by Mr. J. W. Tefft of New York, as will be seen by the following "notice" from the East Syracuse, *News* of Sept. 1, 1888. It says:

Mr. J. W. Tefft of Collamer will please accept our thanks for his liberal donation of several sections of honey last week. Among the number was one marked "For the Office Devil," with Mr. Tefft's compliments. Upon receiving the gift and immediately after testing the quality, the devil enquired as to the geographical position of Mr. Tefft's residence upon the globe. Our devil is quite an ingenious chap and we would not be surprised if he should invent a device to make honey for the girls, as they were among his most frequent callers during the past week.

The Northwestern Bee-Keepers' Society is usually held in Chicago during the last week of the Exposition. This year the North American Convention is to be held at Columbus, Ohio, on Oct. 3 to 5, and thus comes so close to the time for holding the one at Chicago, that it is, by some, thought best to omit it altogether. So many of the members feel unlike making the outlay for attending it, after three years of failure of the honey crop. If it is held at all, the better time would be at the time of the Fat Stock Show. The officers would like to hear from the members on this point.

Mr. F. Cheshire says that the rearing of a bee, from the egg to maturity, costs a colony the equivalent of four cells of honey; and it is only because a bee, in a fair yield, is able to requite the colony with many times its cost, that a large population means surplus; but if this population is brought upon the stage after the harvest is over, it becomes a consuming instead of a producing population. Hence the importance of having the brood-rearing about over when the honey-flow is at its best.—*Exchange.*

How to Test Drinking Water.—One of the simplest ways of testing drinking water is to purchase a small quantity of saturated solution of permanganate of potassium from the druggist and put a few drops of it into a bottle of drinking water. This will turn the water a beautiful rose color, but if the water contains any dangerous amount of organic matter, in a few hours the water will change to a dirty reddish-brown. If the color of the water remains unchanged at the end of twelve hours it may be considered comparatively pure. A yet simpler way of testing the water is to put a half teaspoonful of pure sugar into a clean pint bottle, three-quarters full of water, cork the bottle, set it where it is warm for two or three days and where it will not be disturbed. If, during this time, the water becomes cloudy or milky, it is unfit for household use. If it remains perfectly clear, it is safe.—*N. Y. Tribune.*

Convention Notices.

☞ The North American Bee-Keepers' Society will meet at Columbus, O., on Wednesday, October 3, 1888, and continue as usual in session for three days. W. Z. HUTCHINSON, *Sec.*

☞ The next meeting of the Union Bee-Keepers' Association will be held at Clayton, Ills., on Thursday and Friday, October 11 and 12, 1888, in the Town Hall at 10:30 a.m. The Park Hotel will charge $1.00 per day; the restaurants 25 cts. per meal. We expect Messrs. Dadant, Hambaugh, Camm and other prominent bee-keepers to be present.

S. N. BLACK, *Pres.*

Honey Locust.—We have just received from Mr. Norman J. Coleman, Commissioner of Agriculture, the "Annual Report of Forestry for 1887," issued by the Department at Washington. It contains many things of interest concerning the forest trees, etc., of America. Concerning the Honey Locust it gives these interesting particulars and description:

Distribution.—From the Brazos River, eastern Texas, northward to eastern Nebraska and eastward throughout the entire region to the Atlantic, but in the latter States chiefly introduced. It is mostly associated with other trees, elm, walnut, hickory, and ash, though sometimes becoming the predominant species, and in a few cases, in small areas, excluding all other species. Outside of its natural range it has been quite generally cultivated as a shade and ornamental tree, and in a few of the Western States successfully grown in forest plantations. It is well fitted to replace the Black Locust in the southern half of the United States, where it can undoubtedly be more successfully grown as a forest tree.

In 1700 it was introduced into England, but cultivated only as an ornamental tree, and somewhat unsuccessfully as a hedge-plant, as it was also upon the Continent. Subsequently it became known in south-western Europe, especially in France, Austria, and Italy, where fertile seeds are easily matured.

Growth.—The Honey Locust grows rapidly during its early life in favorable situations, making from 2 to 3 feet annually in height growth, and nearly three-fourths of an inch in diameter for the first ten years. Although not as extensively tried as a forest tree as the Black Locust, yet so far as known it is generally far less liable to the attacks of insects than the latter. Commonly about 50 to sometimes 90 feet in height and 1½ to 3 feet in diameter. Grown in the open it usually produces a short trunk and a broad, much-branched crown, while closely grown with other heavy-foliaged companions it develops a taller trunk and smaller crown.

Soil and Site.—The Honey Locust is found growing almost entirely in low, rich bottom-lands and in sheltered valleys, where the soil is deep and loose, rarely of its own accord taking to the poorer and drier uplands. In such favorable locations it produces its finest timber value. The moderately rich, but loose, sandy, or gravelly soils of highlands and slopes produce desirable timber, though not as quickly as the lower and richer soils. The growth in stiff damp soils is apparently a healthy one, but slow and undesirable for timber; it will not endure an undrained soil.

Propagation.—It does not sprout from the stump nor grow from cuttings, and is therefore propagated entirely from the seed, which will sometimes retain their vitality for three years, even out of the pods. The fresh seed procured in the fall grow most readily if planted immediately, but if kept dry for a season or more and then planted they germinate very slowly, often not at all, or "lie over." The young plants of the first year are not quite as hardy as those of the Black Locust of the same age, but are equal to them in this respect at any time afterwards. They can be transplanted to their permanent sites when one year old and will bear the transplanting well, but are on the whole, perhaps, best kept in the nursery rows till the fall or spring following the second year.

Quality of Wood and Economic Uses.—The wood is heavy, hard, strong, and durable in contact with the soil or when exposed to the weather (equal to that of Red Mulberry). It splits somewhat more readily than that of the Black Locust, and the grain is considerably coarser as well as being more porous. It seems not to have attracted much attention for its economic value, but where available is employed considerably for fence-posts, rails, in turnery for heavy spoke-timber, and is much esteemed for fuel. It is adapted to other purposes in construction, and will undoubtedly come into more general use in the absence of other heavy-wooded but much slower-growing kinds.

The Honey Locust Tree.

Descriptive Characters.—Leaves compound, composed of small, lance-shaped, oblong leaflets. Pods large, flat, shiny brown, 9 to sometimes 18 inches long and about 1½ inches broad, with a sweetish hard pulp between the seeds—often eaten by children. Armed with clusters of long keen spines, generally three together, a central or main one with smaller lateral ones; often attached to the trunks of young trees, but absent from older stems. The

Honey Locust Limb, Seed and Pod.

bark of young trees (ten to fifteen years) is mostly smooth and unbroken; but very old trees have rough and much furrowed bark, rendering the tree quite a different one in appearance. Varieties of this species are without thorns, or sometimes with small thorns.

The locusts are excellent honey-producers and should not be overlooked in the selection of shade trees. Although the duration of bloom is but limited, they yield a bountiful supply of rich nectar, and bees will literally swarm among the highly-perfumed blossoms. Mr. G. W. Demaree, of Kentucky, writes as follows regarding the locust:

"The time of year in which it blooms nearly filling the interval between the late fruit bloom and the white clover, makes it an exceedingly valuable auxiliary to the honey harvest in the middle states, if not elsewhere. It is a most profuse honey bearer, rivalling the famous linden in quality, and only inferior to the product of the latter in color. Locust honey cannot be said to be dark in color. It is of a rich pale-red color, when in a liquid state; but when in the shape of comb honey, its appearance, if removed from the hive when first finished, is but little inferior to our superior clover honey. It becomes exceedingly thick, if left with the bees till the cells are thoroughly sealed, and its keeping qualities are therefore most excellent. The trees are planted by the side of fences, in waste places, and on poor, worn-out lands. They may be propagated from the seeds, or by transplanting the young trees from one to three years old. If the ground is plowed in the spring, and the locust seeds planted on the hills with corn, or with other hill crops, and cultivated the first year, the young trees will grow with great rapidity, even on very poor lands. In this way beautiful groves can be started, making the land, in process of time, very valuable, in locations where timber is an object, besides giving a perfect sea of bloom, ladened with precious nectar."

The Honey Crop is very small this season, especially the white honey. More honey is now being gathered than at any time before, this year. Mr. Geo. H. Knickerbocker of Pine Plains, N.Y., remarks thus:

With these conditions a good quality of honey must, of necessity, bring a good price, unless the market is demoralized. I already hear of some who live in favored localities, and have a fair crop of honey, who are making the mistake so common among bee-keepers, viz: being in such a hurry to dispose of their honey as soon as gathered (before someone else can get theirs ready for market), they offer nice comb honey for 10 or 12 cts. per pound, and by so doing help to establish a low price, even when honey is a short crop and should bring a *good price*, in order to fairly remunerate the producer for his labor and investment.

The foolishness of such proceedings cannot be too severely condemned. If honey does not bring an extra good price this year, it is the fault of the producers themselves. Even those who may have some of last years' crop of comb honey are to be congratulated, for it will also find a market at good prices.

We Have some copies of the old edition of Cook's Manual left, which we will sell at the old price, $1.25. The price of the new edition is $1.50 per copy; a notice of which may be found on page 579.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

QUERIES AND REPLIES.

Why Queen-Cells do Not Hatch.

Written for the American Bee Journal

Query 574.—My bees came out of winter quarters in very good condition, with the exception of one colony that starved to death, and another that was queenless. I have had 3 very good swarms, the first on June 9. To the queenless colony I gave a comb of eggs and brood, and they made two queen-cells, but neither of them hatched. From the colonies that swarmed first, I took a comb and adhering bees containing a nice, sealed queen-cell; but it never hatched. I have given them another comb containing two queen-cells; they have now had time to hatch, but I have not examined them. What do you suppose is the reason that queen-cells do not hatch there? I have kept them well supplied with bees from other colonies.—Iowa.

Candidly, I do not know.—G. M. DOOLITTLE.

The most probable cause of the trouble was that the brood got chilled. —J. P. H. BROWN.

I can offer no explanation that would be of use.—A. J. COOK.

I do not know; perhaps they got chilled.—C. H. DIBBERN.

I think there was not a sufficient number of bees to keep the cells warm. —R. L. TAYLOR.

It is impossible to give a correct answer without knowing all the circumstances.—P. L. VIALLON.

Laying workers probably infested the hive, which are at times very hard to dethrone.—J. M. HAMBAUGH.

Why do you not see if the last cells have a queen or not? If not, break up the colony and unite it with others.—H. D. CUTTING.

You leave too many things in the dark. Did the queens die in the cells? Did the bees destroy the cells? I can give no opinion in the absence of fuller information.—M. MAHIN.

I cannot say, unless they got chilled. The position of queen-cells is usually the coldest part of the hive, and unless the weather is warm, or the colony strong, that may often happen in such cool summers as this.—EUGENE SECOR.

From the data given, I am unable to answer. There are so many reasons that might be given, none of which might be right, that it is useless to attempt to make a reply.—J. E. POND.

Possibly they were chilled, but I have found dead grubs in queen-cells when I thought they had hardly been chilled, and I did not know the cause of death. —C. C. MILLER.

Such colonies are often infested with laying workers, and the young queens are destroyed on their return from their bridal tour. Are you positive that the queens died in the cells?—MRS. L. HARRISON.

There are various reasons why queen-cells do not hatch. Not knowing more of the conditions, I cannot answer in your case. There is no certainty of any queen-cell hatching; that is the reason why all those who used to advocate clipping all the queen-cells but one to prevent after-swarming, were writing a great deal more than they practically understood.—JAMES HEDDON.

Possibly the queen-cells were not handled carefully. I think that many queens, just after the cells have been sealed, may be entirely destroyed by shaking the frames, as we do when clearing them of bees. In this case the queen brood must either have been defective or destroyed by bad handling.—J. M. SHUCK.

No reason can be given why the cells did not hatch if the bees did not abandon them, and leave them to be chilled and destroyed by a too low temperature. I am inclined to think that the cells hatched, and the young queens were destroyed by the bees. Bees that have been queenless a long time are liable to act as though they had laying workers among them, whether you see any signs of these pests or not. This peculiar abnormality among bees is the prevailing cause of the loss of young queens at the time, and before their wedding flight.—G. W. DEMAREE.

In the absence of fuller details, it would be almost impossible to state the cause for the queen-cells not hatching. They may have been chilled, or laying workers might have interfered, or something else may have been the cause.—THE EDITOR.

Bees Stinging the Capping of Cells.

Written for the American Bee Journal

Query 575.—I notice that Mr. L. B. Clifton, in the *Southern Farm*, gives it as his idea that bees, after filling their cells with honey and capping them, insert their sting in the center and deposit some formic acid to protect the honey from fermenting. Now my idea was, that they left it uncapped until all the water evaporated, thereby keeping it from fermenting. What is your idea? I want to hear from older bee-men than I am. I ask this for information.—Georgia.

I more than doubt Mr. Clifton's theory.—M. MAHIN.

Stinging the honey is all "bosh."—R. L. TAYLOR.

I think your idea is as good as any.—H. D. CUTTING.

In my opinion, the *sting* performs no part in ripening honey.—G. M. DOOLITTLE.

My opinion is the same as your own. —J. M. HAMBAUGH.

I have heard this assertion years ago, but I have failed yet to see anything of the kind.—P. L. VIALLON.

I do not believe that formic acid is deposited in it. If that is so, why does extracted honey that has never been capped not ferment when evaporated artificially?—MRS. L. HARRISON.

I think that the formic acid theory, put in the honey by the bees using their sting, is a grand humbug. Your idea is the better of the two.—EUGENE SECOR.

We think that Mr. L. B. Clifton is fond of wild theories. They do not always leave it until evaporated, and that is why some honey bursts the cappings.—DADANT & SON.

I do not know, but I am somewhat skeptical about bees ever using their stings for any other purpose than as weapons of war.—C. C. MILLER.

We have no proof that bees *insert their sting* and deposit formic acid in the honey, although there is some formic acid present in nearly all honey. —J. P. H. BROWN.

The above idea is all theory, and to my mind utter nonsense; at any rate, it is all guess-work, and almost any Yankee could guess better.—J. E. POND.

I do not believe in the formic acid idea. I believe that the only use the bee makes of its sting is for defense. Bees do not generally cap the cells till the honey is sufficiently evaporated to keep.—C. H. DIBBERN.

Well, I am quite an old bee-man, and have put in most of my time studying apicultural queries that came rather closer to my dollar-and-cent success, so I will not try to give instruction about what I do not understand.—JAMES HEDDON.

I think that idea is a myth. There is formic acid in the honey, which is doubtless the result of digestion. How do the stingless bees of hot climates acidulate their honey?—A. J. COOK.

My "idea" is, that I never saw it done, and that I do not believe it is done. At our county horticultural meeting last week, a bee-keeper made the same statement, and also that the bees did the capping "with their stingers." I think that he never subscribed for a bee-periodical. If formic acid has to be put into honey to prevent its fermenting, when is it put in honey that is extracted before being capped?—A. B. MASON.

I believe it has been established that there is formic acid in honey. I incline to the believe that the acid formed in honey is developed and incorporated with the honey in the honey-stomach, and tends to preserve the nectar till it ripens, rather than to preserve it after it has been evaporated and sealed.—J. M. SHUCK.

When Mr. Clifton writes in that way he is simply repeating one of the many "scientific pleasantries" with which our bee-literature abounds. There is not a shadow of truth about it. Honey contains more or less of formic acid, but it gets there by absorption from the effluvium rising from the heated cluster of bees. Perhaps this is a wise provision of nature—certainly it is the most natural process by which such an end could be accomplished.—G. W. DEMAREE.

Formic acid is found in the honey, no matter whether it is capped by the bees or extracted before being capped —therefore the "theory" advocated by Mr. Clifton is without foundation. He is not the author of the theory, however. Our friend, the Rev. W. F. Clarke, is its sponsor, and if he finds it possible to further defend it, we should like to hear the arguments.—THE EDITOR.

CORRESPONDENCE.

QUEEN-REARING.

In full Colonies, without First Removing the Brood.

Written for the American Bee Journal
BY HENRY ALLEY.

It is supposed that queens reared at swarming-time are superior to those reared by what is called "artificial methods." This point I will not discuss at this time, but will give the results of some experiments which have been conducted in my apiary the present season, in order to induce a colony of bees to build queen-cells without first removing the queen or any of the brood.

On August 15, several of the best colonies in my apiary were put in order, to test this matter of rearing queens in full colonies the same as the bees would do if about to cast a swarm. When it was ready, I found the bees were ready also, and they built the cells just as I expected they would. I must say that I was as much surprised as delighted at the result, to see that my first attempt was a success.

The cells thus built were very large, and the young queens from them are fine and equal to those reared by any method, or by any one. I intend to present several of them to prominent bee-keepers in this country, and have them tested with those reared at swarming-time; others will be placed in my own colonies.

If this new method for rearing queens works as well as it now promises, it will most likely be adopted by nearly all who rear queens in large numbers, as it is the most practical as well as the most economical method yet devised by any one. There is no doubt in my mind, that one colony of bees can be kept at work building queen-cells from May 20 to September 20. There is one colony in my apiary that is now (Aug. 29) at work on the fourth set of cells, and the bees seem to take as much interest, and work on them with the same vigor, as they did on the first lot of eggs given them.

One of the best features about this new method is the fact that the bees build no cells except from the eggs given them; therefore, it will not be necessary to hunt the other combs over, when one set of cells are removed.

It must be evident to all, that this method has a marked advantage over others so long in use, one of the most important of which is in the immense saving in bees, time and honey, as by this method queens are reared, and in so doing the colony need not be disturbed, except when one frame is put in, and removed at the time the cells are capped.

Some one will say, "I thought you did not approve of having one colony build but one set of queen-cells." Well, I do not in cases where the bees are deprived of the queen and all the brood. You must remember that with the new plan the bees are kept at all times in the same condition that they are in when a swarm issues. Now, if bees are kept in that condition, why are they not ready to rear as fine queens as they would if they had intended to swarm? The queen has the freedom of all the combs, and brood-rearing is not stopped for a moment, and thus the colony is kept up to the highest point of activity at all times.

So far as I have any knowledge, no one has ever reared, or has attempted to rear, queens by not depriving the bees of their queen. I am not quite ready to make public the details of this method of rearing queens, but I shall probably do so at the proper time, and in season for those who desire to test it another year.

Wenham, Mass.

THE A B C.

Early Instruction for Beginners —Things Worth Knowing.

Written for the Youths' Companion
BY DR. C. C. MILLER.

"What a beautiful piece of honey! I wonder if it is artificial, or genuine comb-honey made by the bees."

Such remarks as this may often be heard from those who have read the statement which has been going the rounds of the papers, that comb-honey is made by machinery entirely independent of the labor of the honey bees. The story was first started by Professor Wiley who says he meant it as a scientific pleasantry; but error travels faster than truth, and may not be overtaken by it for years.

The truth is that no such thing has ever been accomplished, and I doubt if it has ever been attempted. Mr. A. I. Root made an offer of one thousand dollars for a single pound of honey so made, and although the offer has been standing, if I am not mistaken, for several years, no one has yet called for the money.

When you examine the wonderful workmanship in a piece of honey-comb and observe its great regularity, it seems that there must be some master-builder among the many thousands, whose province it is to direct the acts of the others that the work may go on as one harmonious whole. But if you watch the bees at work you will see nothing of the kind. True, there is a bee called a queen, but the bees do their work without any control on her part. Each bee seems to be working according to its own sweet will, one putting on a bit of wax, another giving it a push here, another there, and the only wonder is, that where so little order or system appears, such wondrously regular workmanship is done.

It is interesting to watch a young worker gnaw its way out of its cell, and become a member of the commonwealth. No mother, nurse nor tutor is on hand to instruct it as to what its duties are to be, and yet that mysterious something, that we call *instinct*, which is born with the bee, seems to tell it exactly what to do, so that the same perfection of workmanship is found in the hive now as thousands of years ago, no improvement from practice. The bee does not seem to learn to do its work, it *knows* without learning.

The first sixteen days of the young worker's life are spent indoors doing house-work and tending baby, and during the rest of its life it is a field worker, bringing in nectar and pollen from the flowers, also water and propolis. During the busy gathering season, the life of a worker is not more than six weeks, and it seems to wear itself out with work, for the old bees are distinguished by their ragged wings.

The name queen is misleading. The queen is not a ruler, she is simply an egg-layer, and is said sometimes to lay her own weight of eggs in twenty-four hours, that is, about three thousand eggs. She does this, however, only when all conditions are most favorable, surrounded by a populous colony, with a copious harvest, for at such times she is bountifully fed by the workers, that can be seen every few minutes offering food to her.

Under ordinary circumstances a queen is doing pretty good work to lay one or two thousand eggs a day, or rather in a day and night, for work in the hive goes on day and night. The workers rather than the queen seem to control the rate at which eggs are laid, for at some seasons of the year, particularly in autumn and winter, the queen is left to forage for herself, and few or no eggs are laid.

The cells in honey-comb are six-sided and of two sizes, one size, worker, measuring five to the inch, and the other, drone, four. If an egg is laid in a small cell it produces a worker, if in a large cell a drone. At certain times a third kind of cell is built, a queen cell. When a colony becomes very populous and contemplates swarming, a number of queen-cells are built, looking not unlike so many peanuts, each queen-cell taking as much wax in its construction as would make a great many drone or worker cells. A queen-cell is not six-sided but round, and the young queen, while in it, has several times as much room as the other young bees.

About ten days before the young queens are old enough to emerge from their cells, the swarm issues. The old queen goes off with the swarm, and when the first young queen hatches, a second swarm is likely to issue, to be sometimes followed in two or three days by a third, and not rarely by a fourth and even a fifth.

The young queens seem to have a mortal antipathy to each other, and as soon as one such queen hatches, her first business is to proceed, if allowed, to destroy her unhatched royal sisters. This she does by digging a hole in the side of a queen-cell, and stinging the inmate in its cradle. If further swarming is contemplated by the workers, they defend the unhatched queens from the attack of the one at liberty, which goes off with the swarm. Previous to going off, however, this young queen may be heard, especially in the still of the evening, uttering a shrill cry, "Pe-e-p, peep, peep," replied to by the

young queens in their cells, "Quahk, quahk."

When no further swarming is intended, all the young queens who are sufficiently matured are allowed to emerge from their cells, and when two of these meet, a deadly combat ensues. One of them stings the other to death, and strangely enough the victor is never injured in the struggle, for neither one stings till she gets in a position to deal a death thrust without danger to herself. In this way the conflict contiuues till all the queens but one are killed, and those remaining unhatched are despatched in their cradles.

These queen-cells, of which I have been speaking, are usually found on the edges of the comb, and sometimes even on the wood that surrounds the comb. If a hole happens to be in any part of a comb the bees are likely to make use of the space for a queen-cell. If the queen is at any time lost, when no previous preparation has been made for rearing a young queen, a different course is pursued.

The bees select a young larva in a worker-cell, which, under ordinary circumstances, would have produced a worker, enlarge its cell greatly, destroying, if necessary, the adjacent cells for that purpose, feed it lavishly so that the little grub is literally swimming in a sea of food, and in due time it emerges a perfect queen.

If it should happen that nothing but drone eggs are in the hive, the poor bees will try their best to rear a queen from one of these, but it never grows into anything but a drone, and, I think, always dies in the cell. The fact is, there are only two kinds of eggs, drone and worker or queen, for any and every worker egg with the right kind of food and treatment will produce a queen.

The young worker has its rations very accurately dealt out, just enough, and not a particle is left over; but there is no stint in feeding the young queen, and when she hatches out of her cell there is usually enough food (*or royal jelly*, as it is called) left to make one think another queen might have been reared on it.

The time required for hatching out the perfect bee from the laying of the egg is, for the drone twenty-four days, for the worker twenty-one, and for the queen sixteen. Curiously enough, the one that matures the soonest lives the longest, for the queen attains the age of two, three and sometimes five years.

The life of the worker seems to depend on the amount of work it does, in the honey harvest living only about six weeks; but those which are hatched late in summer live over till the next spring. It is hard to tell just how long the drone would live if let alone, for when forage in the fields become scarce he is mercilessly driven from the hive to perish.

The drone is the male and is a lazy scamp, for he not only does nothing toward laying up stores in the hive, but does not even visit the flowers for his own food. He helps himself to the stores gathered by the workers, then flies about for exercise, and comes back with a good appetite for more.

There seems to be a popular impression that a queen is surrounded by a body-guard or a number of courtiers always accompanying her, and ready to attend to her every want, while some have the notion that the queen-cell is a kind of throne where the queen holds court and may be found at all times.

So far is this from being true, the queen-cell is torn down shortly after the young queen hatches out, and before she is two weeks old she commences laying and may be found in any part of the hive.

No bee accompanies her, but if at any time she stops at any point, the workers near her form a circle about her, all facing the queen as if to do her honor. Presently the queen moves on, and the retinue is broken up, to be formed again when she next makes a halt, but the retinue is formed by a fresh lot of workers each time.

Within the past fifty years great progress has been made in bee-culture. Some men take as much pride in their stock of bees as others do in their stock of cattle, and fresh importations are constantly made from other lands, Egypt, Palestine, the Isle of Cyprus, but chiefly from Italy. The Italian bee is distinguished from the common black bee by having three yellow bands upon its abdomen, being more beautiful in appearance and more industrious in character.

I have only touched upon a few points of interest relating to the honey-bee. That the subject is a large one may be judged from the fact that there are published in the English language three weekly periodicals devoted entirely to bee-culture, besides a number published monthly and semi-monthly.

Marengo, Ill.

POOR SEASON.

Some Good Advice about the Fall Care of Bees.

Written for the American Bee Journal

BY CHARLES F. MUTH.

It requires but a small amount of skill and experience to produce a large amount of honey in bee-hives or nail-kegs when the season and surroundings are favorable; we all know that some of our brethren going in favored localities have their egotism tickled more than is necessary when a large crop is realized. Their celebrated hives, inventions of their own; their celebrated methods of manipulation, their fine theories and never-ending arguments, would all drop out of sight with themselves, if they were living in a locality like we "poor chaps" who have had four poor honey seasons in succession.

The season of 1888 is as bad as any we have had, and although I never experienced or heard of a colony of bees starving in the month of August, such things are possible, and it is the object of this article to put my neighbors on their guard.

My bees had, during this season, 8 acres of Alsike clover in their immediate vicinity, and I extracted 150 lbs. from about 20 colonies, which should not have been done, judging by present appearances. I examined my colonies about Aug. 20, and found all strong in bees and brood, but, with a small amount of stores. A June swarm, hived on 10 full combs, had every comb filled with brood in all stages and not a drop of honey. I supplied them at once, as a matter of course. It is a peculiar fact that Italian bees, with a vigorous queen, will fill their combs with brood during a dearth, when with blacks, as a rule, almost all breeding would cease.

My colony referred to above, is now one of the best in my apiary, but would have starved to death in less than 3 days, as a cool, rainy spell set in while the food was still on their hive, lasting for three days or more. There are 20 acres of buckwheat in full bloom, and in view of the apiary, which would not have saved it from starvation.

There are hundreds of colonies of bees in Ohio, Indiana and Kentucky, in a worse condition than mine, which may starve to death between now and the beginning of winter, unless they are provided promptly.

Cincinnati, O., Aug. 30, 1888.

ORIGIN OF HONEY.

Where does the Honey come from?

Written for the American Bee Journal

BY JAMES HEDDON.

There have been many interesting articles written under the title of "Where honey comes from," and after reading them all, I can think of no heading more appropriate to my understanding of the matter, than "Where *does* honey come from?" After last season's severe drought, we had something less than half the usual white clover bloom, and the basswood bloom was an average one. From all I know after twenty years' experience, I should not have had much if any different weather during the above blooming, could I have fixed it my own way. But now, strange to say, of white clover honey we get almost none, and no more than one-sixth of the crop of basswood, nearly all of which was taken in the extracted form.

For the last four years we have secured but little amber honey which comes from buckwheat and weeds, during the months of August and September, and we credited the failure to the droughts which occurred each year. Now this year we have the same August drought as bad as ever, and we have almost an average yield of this so-called "fall honey." Buckwheat yielded well, right in the drought. Now I am nonplussed; my observations would lead me to say to a novice who might ask me where honey comes from, that "it just comes out of the air;" and if he asked me under what conditions, I might say, "when it wants to."

The pleurisy-root which I have written about, as the best honey-plant I am acquainted with, actually shared the fate of the clover and buckwheat of this season, at least to a certain extent. Certainly the bees worked on it, con-

stantly, never leaving it for basswood, but it was exceptional rather than in all blossoms, as heretofore, where you could see the drops of honey standing.

Poor Seasons are Blessings.

The last two very poor honey seasons, will, I am confident, prove a blessing to bee-keepers. It has given us old veterans a splendid education; it has taught us how to make the most of disaster; it is a valuable acquisition to know how to make the most out of our business when good luck favors us, and it is also equally valuable to know how to make the most during disastrous seasons. Besides this, the markets are cleared out, consumers are getting the habit of paying a little more for their honey, and better than all, producers as well as consumers, are finding out that bees do not "work for nothing and board themselves," but that intelligent labor and capital are needed to make our business remunerative.

The quality of honey in this section is some better than that of last year. We shall strive to winter our bees to the best of our ability, believing that honey-production offers more inducements at the present time, than at any time during the past few years.

Dowagiac, Mich.

TIERING UP.

My Method while Working for Comb Honey.

Written for Gleanings in Bee-Culture

BY G. M. DOOLITTLE.

The usual plan of working for comb honey is what is known as the tiering up system, and without doubt there are more who use this system than there are of those who use all other systems combined; yet this does not certainly make it true that this plan is the best one there is, by any means. It often happens that the majority is not in the right, and so, after I had proven to my entire satisfaction, that there was a better plan to work on, in producing comb honey, than the tiering-up system, I forsook the same and turned my attention to other plans. My chief objection to the tiering-up plan was that not so much honey could be obtained by using it; and, worse than all the rest, if the utmost care was not used, the result would be lots of unfinished sections in the fall. These unfinished sections have been an eye-sore to all the users of this plan, as the immediate past will testify, for many are so disgusted with them that they recommend that they be burned up, while a whole issue of one of our bee-periodicals, is used in telling how to save them by way of feeding back extracted honey, in order to get them filled.

The next system most in use is what is termed the "side and top storing plan combined," which I adopted upon leaving the tiering-up plan. By the use of this plan, more honey can be obtained than by any other plan I know of, except by using the lateral plan, of which I shall soon speak. The trouble with the side and top storing plan was, that it required much work; yet, as I go over the results of the past while using it, I am convinced that the extra amount of honey obtained by it more than paid me for all the extra work the plan required, over the tiering up plan. An average yield of over 80 lbs. of comb honey per colony, for a period of 15 years, is a record never attained by any of the advocates of that plan.

A few years ago D. A. Jones came out with a wholly side-storing plan, the young brood to be kept in the center of the hive by means of perforated zinc, while the sections were to be placed between that and the older brood, which was to be kept on the outside. One trial of this proved, so far as I was concerned, that the plan was fallacious; and although he told us he would explain, some years ago, I have never seen a word from him on the subject since; hence I have not enumerated this in the above three plans at all.

While working with the side and top storing plan I left a passageway under the side sections, so that any bees which might be scattered around over the top and side of the hive, after any manipulation, could get back to the cluster, instead of dying there, as is the case where no means of outlet is provided. This caused many to write me, asking if I meant to have this so; "for," said they, "the bees will go around under these side sections, up into the cap over them, and build comb there, which they fill with honey." I told them that this was as I wanted it, giving the reasons for so leaving it, and telling them if any colony so persisted in doing, to give more room by adding sections at the sides.

Well, I often got caught in this same fix myself, when I would be a little tardy in keeping up with the bees, so that I have often had from 5 to 15 pounds of honey built in the cap of the hive, the bees having to travel from 25 to 30 inches entirely away from the brood to get there. This leaving the brood and storing honey in such amounts in the cap, led me to adopt what I term the lateral plan of obtaining section honey, which plan gives me fully as much honey as could be obtained by the side and top box plan, with as little work as is required when using the tiering-up plan.

The larger part of my hives are of the kind known as the "chaff hive," which gives plenty of space on top for all the room required by the largest colony, without tiering up. Over the top of these hives I have placed a queen-excluding honey-board, the queen-excluding part going over only the brood apartment to the hive, the rest being a thin board to cover up the chaff. When the honey season arrives this is put on (quilts being used, together with sawdust cushions up to this time), and from three to five wide frames, holding four 1¼-pound sections each, are placed directly over the brood. As soon as these are well occupied with bees at work, I add one or two wide frames at each side; and when these are satisfactorily occupied I add enough more to cover the top of the hive if so much room is needed. In this way I accommodate the size of the colony with the needed room, neither giving too much nor too little, as must of necessity occur where the T super and others of a set capacity are used.

As soon as the first that were put on are filled, they are taken off (handling by the wide frame only, so five pounds are handled instead of single boxes), when the partly filled sections at each side are slid along on the honey-board till they come together in the center, when the empty ones are placed at the sides.

As the honey season draws to a close no more empty sections are put on, so that, when the season is over, I often have but one or two wide frames or sections on the hive, thus doing away with more partly filled sections than I really need for bait sections the following season.

Borodino, N. Y.

FOUL BROOD CURE.

The Sulphuric Acid and other Methods of Cure.

Written for the American Bee Journal

BY GERD WENDELKEN.

Many substances can be used as a remedy for foul brood, but the question is, which is the best? Salicylic acid and carbolic acid, associated with borax and alcohol, is recommended by Mr. Muth and Mr. Kohnke, as the best remedy, but some other beekeepers have found them of no use. The failures, I think, are caused by wrong methods which they pursued. The attempt to cure foul brood by spraying the infected hive and combs with diluted salicylic or carbolic acid is uncertain, because we may spray too much or not enough; and in addition to this it is very troublesome to apply it, besides having a chilling effect on the colonies, and is often a mischief instead of a benefit. The worst of all is the fact, that when applied to hives and combs, we start robbing, and bees from other hives visit the combs under treatment, and take the spores home with them, and by the time one colony is cured, some of the others are infected; therefore I always have been in favor of the remedy being given in the food, and provide the bees with the drug, and the bees will give it to the larvæ.

Methods of Curing Foul Brood.

Mr. Stachelhausen recommends carbolic acid mixed with wood-coal and tar. He puts this on felt paper in the hive on the bottom-board, and moistens the front at the entrance with it about twice a week. He disinfects every hive in the yard whether diseased or not diseased. The vapor of this stuff, he says will prevent the spread of the disease from four to six months. After this is done, he commences to cure the diseased colonies, by feeding every diseased one with medicated syrup, as Mr. Muth has recommended.

Mr. Cheshire recommends carbolic acid, 1 part to 500 parts of syrup, and he has cured foul brood by feeding it to diseased bees.

I prefer sulphuric acid when mixed 1 part to 700 parts of syrup, and fed to the bees; because the cure is easier, quicker and cheaper. The price of one ounce of salicylic acid is 50 cts., one pint of the best quality of alcohol cost 90 cts. —in all $1.40. Now one ounce sulphuric acid costs only from 5 to 10 cents, and the curative effect will go as far as the other acids do. With little expense and little labor, I cured my foul broody bees in Germany in 1838 (50 years ago), and I think that I can do it yet; because there is no difference between foul brood in Germany and in America.

Several prominent beekeepers have recommended to give the foul bees a new, clean hive with foundation; treat them as a new swarm, and burn the combs of the foul brood. I have no doubt that foul brood can be cured by this method, but it seems to me unnecessary, and it is doubtful to me that the cures by burning, spraying, and starvation would pay.

Marietta, O., Sept. 1, 1888.

SCIENCE.

Indefensibility of Criticising True Science.

Written for the American Bee Journal

BY PROF. A. J. COOK.

I was surprised and as deeply pained, to read the article from our friend, Mr. G. W. Demaree, on page 568. Prof. Wiley's article in the *Popular Science Monthly* was not science. It was worthy censure, for it taught glaring mischievous error, and dressed this in science's garb. But to censure or ridicule true science is like discourtesy or rudeness to one's mother—utterly indefensible. Science has been one of the most potent factors in the Nineteenth Century civilization. To it we are all indebted more than we can tell. What base ingratitude, then, to defame it. "How worse than an aching tooth is a thankless child."

Honey is "Digested Nectar."

I was also surprised that the same gentleman should contradict one of the demonstrated facts of science—that honey *is* digested nectar. "No uncrazed thinker on the earth possessing brains enough to frame a thought could believe such an impossibility." That is a strong sentence for a man of Mr. Demaree's intelligence. He might as well say the same of the belief that I can talk with, and recognize the voice of, a friend 200 miles distant. Oh, friend Demaree! "There are more things in heaven and earth than are dreamt of in your philosophy." Nectar is neutral; honey is acid. Nectar is cane-sugar; nectar invert sugar. *They are not the same.*

That all honey is equally digested is very likely not true; but that honey is more or less perfectly digested nectar is as certain as that the world is round. To proclaim truth, should do injury to no man or industry; if it does, all the worse for the man or the industry.

Agricultural College, Mich.

QUEENLESSNESS.

Removing Queens from Colonies to Save Honey.

Written for the American Bee Journal

BY ALEX. W. STITH.

On page 504, is an article from my pen, on removing queens to save honey, and I will say, in "justice" to myself, that it was meant for surplus alone; I produce only extracted honey, and to this only, I intended the rule to apply.

On page 521, appears an article by W. Z. Hutchinson, embodying nearly the same principles, yet differing somewhat in its practicability, both he and I seemingly unaware of each other's production, as they were published on nearly the same date, and the reader will be left to solve the problem.

But lo, there ariseth the "wise man of the East"—Mr. Friedemann Greiner, who has an article on page 538. He is probably not as well known to the readers of the BEE JOURNAL as Baron Von Berlepsh, Dzierzon and others, to whom he refers so much. Mr. G. seems free to let Mr. Hutchinson alone, but perhaps Mr. H. is too good authority to tackle, if he does not "cage the queen." But Mr. G. seems ready to correct one whom he may consider a "mossbacked Kentuckian," with the experience and conclusions of Dzierzon, Hilbert, and Pollmann, but at the same time disregarding the advice of the great Baron Von Berlepsh, whose untiring investigations I have no reason to disregard; and with due justice to the above distinguished apiarists, I will say that if the idea originated with Berlepsh, or any one else, why, Mr. G. will please flatter the right one (or himself, as the dictates of his conscience will permit).

I have been a reader of the BEE JOURNAL, if I mistake not, for the past eight years, and I had not seen in print, prior to my article alluded to, the method I described, and I am not so desirous of notoriety as to state anything but facts which developed under my own observation, Mr. G's. article on page 538, to the contrary notwithstanding.

I am aware that myself or Mr. G's. writing the experiences and conclusions of others will not interest the reader; if it would, why need we go to Europe or South America? Have we no practical or scientific bee-keepers in the United States, to test the method described? Where are our Cooks, Newmans, Heddons, Doolittles, Secors, Abbotts, Demarees, and many others whose names are so familiar, and whose scientific researches and practical experiences have been of so much benefit to the agricultural world—perhaps as much as those renowned pioneers of Europe, whose talent no one appreciates more than I?

What I may write on bee-keeping is for the sole purpose of benefiting bee-keepers in general (especially the novice), and it is from my own experience in managing an apiary, consistiug of from 50 to 100 colonies each year, for the past ten years—in Kentucky, not Germany, or South America, or in the State of New York. I write of what I have tested to my own satisfaction in my own apiary, and I will practically answer all of Mr. G's. criticisms, but respectfully request him, to describe his own experience in detail, of "caging queens" in full colonies, to be smothered by her own bees in extreme hot weather, such as we have in the months of July and August. Probably such procedure may do in New York, but not in Kentucky.

In conclusion I will add that no one enjoys a friendly discussion more than I, for in a diversity of opinion the reader is most likely to be enlightened. So my thanks are hereby tendered to Mr. G., not for his practical method of "caging queens," but for criticizing my error, if it is one.

Portland, Ky.

OLD COMBS.

The Condition of the Bees in Northern Iowa.

Written for the American Bee Journal

BY WILLIAM CLEARY.

Generally speaking, bees wintered well here last winter, but got very weak in the Spring, and some dwindled. It was so wet until the middle of June, that they did not get enough to keep up breeding. We got no honey from white clover, and very little from Basswood. There was no surplus, and on August 1, half the bees in the county did not average two lbs. per colony. We were "blue," but with buckwheat and fall flowers they have stored about 20. lbs per colony so far this month. Some of my neighbor's bees have been swarming continually for the last three weeks, and he has cut out all the queen-cells several times, but they would swarm the next day, and every fine day. I increased my bees one-third by dividing. They have not swarmed, but are in good working condition now—about as they should be in June in a favorable season. We expect very little surplus unless the fall is extra good and late. I want to ask a few questions:

1. Would you use old black comb that the bees died in, or empty frames, if the combs were straight and otherwise good? Last year and this I hived most of my new swarms on old comb, and a neighbor put his on new empty frames, and he got the most honey. I have almost lost faith in saving old combs.

2. Some say that you can keep the bees from swarming by cutting out queen-cells; but my neighbor cannot. Why is it?

3. Is it advisable to keep putting bees back, where they persist in swarming in June and the first of July?

4. I noticed a great many small shiny bees, and my neighbor spoke of the same thing. What were they, and what caused them? They were mostly among weak colonies. They died, or were killed off, as they are all gone.

5. I also noticed that when there was no honey coming in for several days, the bees left some brood they did not cap over, and I found dead brood in

some hives. Was this caused by the lack of honey? They had plenty of pollen all summer, but there was no honey in the bloom until now.

We are having a dry spell; the basswood yielded very little, as it was very late and lasted only a few days.

6. What way should the wind prevail, to have the best honey-flow?

Algona, Iowa, Aug. 30, 1888.

[1. We prefer to use comb foundation, rather than any "old black combs." It is false economy.

2. That is the usual method of the prevention of swarming—but when the "swarming fever" is on them it is difficult to control them.

3. To persist in putting the bees back, sometimes results in the loss of the swarm, by their going to the woods without alighting.

4. They are old bees and are often found in strong colonies, but soon disappear—dying of old age.

5. During a dearth of honey, the bees sometimes not only leave the brood uncapped but actually put it out and destroy it—thereby preventing any increase to consume the failing stores in the hive.

6. We have often noticed that no honey is gathered unless the wind comes from the south, southeast or southwest.—ED.]

FUMIGATION.

Bi-Sulphide of Carbon for Comb Fumigation.

Written for the American Bee Journal

BY G. R. PIERCE.

While looking over some of the back numbers of the AMERICAN BEE JOURNAL a short time ago, I noticed a query in regard to the best method of protecting spare combs, as well as surplus honey, from the ravages of the larvæ of the bee-moth. The reply to the question, describes the method usually adopted by bee-keepers to accomplish this purpose, *i. e.*, to expose the combs to the fumes of burning sulphur, in a closed room.

In my experience I have found the above method to be crude, more or less troublesome, and by no means reliable, unless the bee-keeper has an apartment that is suited to the purpose; and even then, if the worms have obtained a *foot-hold*, or if the quantity of comb to be fumigated is small, the trouble and labor expended by this method is greater than the benefit derived from the comb.

The principal objection to sulphur fumigation is, that combustion cannot be well regulated. If a small quantity is used, it is soon consumed, and the effect is not lasting enough; but, if on the other hand a larger quantity is used, care must be taken lest a conflagration be the result.

Another objection is, that sulphur will not burn readily except in connection with substances that are rich in carbon, *i. e.*, dry wood, resin, charcoal, lycopodium, etc.; and, as these substances are not chemically united with the former, when the oxygen of the air is insufficient in quantity to oxidize both elements, the carbon will take the most, leaving little or none to unite with the sulphur, to form sulphurous acid gas—the larvæ destroying agent.

As has been intimated above, the object of burning sulphur is to generate sulphurous acid gas, a most potent agent for destroying parasitical life, both animal and vegetable. It is true that there are other substances which would prove equally efficacious, as far as merely destroying the larvæ is concerned, but they are not available; either on the score of economy, or because they would render the combs unfit for the further use of the bee.

A few years ago, having occasion to fumigate some spare combs, and not being satisfied with the methods described in the different works on bee-keeping, I conducted a series of experiments with a view to find some simple and more reliable way to accomplish the object sought. After many trials with different substances—the details of which is not necessary to consider—I decided that the most satisfactory results were obtained by the combustion of bi sulphide of carbon.

As I have stated, the main objection to sulphur is, that its combustion cannot readily be regulated. The first step, therefore, was to obtain a solution containing sulphur which might be burned in a lamp; this would enable the operator to continue the fumigating process at will, as well as to confine the sulphurous acid evolved, to a very small space if desirable—as it would be when the quantity of comb to be exposed was small.

At first thought, sulphuretted oil (Sulphuretted oil is made by dissolving sulphur in hot oil. As the latter cools, most of the sulphur is precipitated. It is sometimes called "balsam of sulphur") would seem to have a composition that would burn readily in a lamp, and so, indeed, it would when in a free circulation of air, but when ignited in an enclosed space, the products of combustion were mainly carbonic acid gas, sulphur soot, etc. The trouble in this case also was, that the oil was too rich in carbon, especially when the lamp was burned in an enclosed space, the carbon appropriating nearly all of the oxygen, leaving very little to unite with the sulphur.

The foregoing experiments not being successful, I now turned my attention to bi-sulphide of carbon, to consider its possibilities as a fumigating agent. This substance is a clear, colorless liquid, with a peculiar fetid odor; volatilizes quite rapidly at ordinary temperatures if exposed to the air; and boils at about 118.5 per cent. Fahr. Its chemical formula is $C S_2$; contains 15.78 per cent. of carbon, and 84.21 per cent. of sulphur. It should be kept in a cool place, and under no circumstances should the container be opened near a flame.

The main difficulty experienced in using bi-sulphide of carbon as a fumigating agent was, to devise a lamp in which it would burn safely, for it is so inflammable that in one of ordinary construction the liquid in the fount would surely ignite from the flame of the wick; this trouble being overcome, the trial was a success in every particular.

I have no hesitation in saying that fumigation with bi-sulphide of carbon will commend itself to every enterprising apiarist who will give it a fair trial; a careless man, however, should never handle it, as it is a bad thing to play with, but with care it is as safe as kerosene or any other illuminating oil.

The price of bi-sulphide of carbon varies according to the quantity purchased. The quotations are from 20 to 30 cents per pound, wholesale. I have seen it quoted at 15 cts. per lb. in 5 lb. bottles, the price of the bottles added. It is only persons in the wholesale trade who can buy at these prices, but if the bee-keeper will buy the article in unbroken packages, he can probably obtain it from the local druggist at a comparatively small advance.

Blairstown, Iowa.

WINTER FOOD.

The Relation of Food to the Wintering of Bees.

Written for the Bee-Keepers' Review

BY W. Z. HUTCHINSON.

All are agreed that for the successful wintering of bees in our Northern States, good food is of the first importance; but as to how this shall be best secured, there is some difference of opinion. Pure cane-sugar properly prepared, or fed early enough to give the bees time to prepare it, stands unrivalled as a winter food for bees.

Dr. Miller says his bees made a "poor stagger" in wintering upon sugar last winter, but admits that the same might have been the case had honey been fed instead of sugar, and that sugar fed in the right time and in the right place is probably a safe food. The Doctor asks, who has practiced taking away all natural stores and feeding sugar, and met with unfailing success? I have, Mr. Heddon has, many others have; in fact we feel like asking the Doctor who has not, when the bees are wintered in a temperature ranging from 35° to 50°?

When I was at Mr. Heddon's last spring, he read a letter just received from Mr. C. E. Boyer, of Ainger, Ohio, in which he recounted heavy losses of sugar-fed colonies that had been kept in a warm cellar. It was the first instance of the kind that had come to our knowledge. It was a puzzle to us, and is yet; that is, if the sugar was pure. As a general thing, I think it better that the sugar be fed early, but it can be given late and yet have the bees winter well.

It was Mr. E. J. Oatman, I believe, who once fed sugar so late, to 200 colonies, that it was not sealed over at all, yet they wintered well in a cellar. If fed early the bees have an opportunity

to handle it over, and in this handling, its character is somewhat changed by the addition of the secretions from their glands. There is also an opportunity of sealing over the syrup, when it is less likely to be injured by changes in temperature, moisture, etc. If fed late, the syrup must be made thick, as the bees have no time to evaporate it; and there must be something added to prevent the syrup from crystallizing. After repeated trials I give my preference to honey. From ten to twenty per cent. of honey is sufficient. I never want to be put to the trouble of extracting the honey in the fall before feeding sugar, and, if contraction of the brood-nest is properly managed, the combs will be perfectly free from honey at the end of the honey harvest; when, with Heddon feeders, oil-stoves to prepare the syrup, and the proper utensils, feeding is never dreaded in this "family."

Two or three years ago I experimented by feeding and preparing for winter a few colonies each day. I began the latter part of August and continued feeding a few colonies each day until nearly the middle of October. All wintered equally well, except the last few colonies that were fed. I think that September is early enough to feed. When feeding has been neglected until it is so late, and the weather so cool that the bees will not leave the cluster and go up into a feeder, it may be managed by filling the feeder with hot syrup and placing it *under* the hive. The heat from the syrup will warm up and arouse the bees, when they will come down and carry up the feed.

But all cannot, or may not wish to, use sugar for a winter food, and I have done my best to help them. I especially recommend the views of Mr. O. O. Poppleton. According to his idea, those who have been so successful by saving out combs of early-gathered honey upon which to winter their bees, may attribute their success to the fact that the early honey harvests were very abundant, while the fall flow was scanty. Mr. J. H. Martin unconsciously voices that idea when he says: "I find that good buckwheat honey will winter bees better than honey from a great variety of fall flowers." Possibly the honey, in a slight flow, becomes more heavily charged with pollen. Candied honey or thin, watery honey is an unfit food for bees long confined by cold. As a rule, honey-dew furnishes a poor winter food. To those whose management is such that their bees must winter upon natural stores, we would say, see to it that the stores are from the most bountiful flow, well ripened and sealed, and you have done all that you can do.

Dr. Miller asks for an explanation of why bees have starved with an abundance of pollen within easy access, and yet showed no signs of diarrhœa. I would say that I suppose bees can live but a short time without honey, that upon pollen alone they would soon starve—before enough would be consumed to overload the intestines. In other words, if bees had access to pollen only, they would eat but very little of it, and the result would be starvation rather than overloading the intestines.

Flint, Mich., Sept. 1, 1888.

CONVENTION DIRECTORY.

1888	*Time and Place of Meeting.*
Oct. 3-5.—	North American, at Columbus, O. W. Z. Hutchinson, Sec., Flint, Mich.
Oct. 11, 12.—	Union, at Clayton, Ills. S. N. Black, Pres., Clayton, Ills.
Dec. —.—	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Plan for a Bee-House.—Chas. D. Barber, Stockton, N. Y., on Aug. 31, 1888, says:

I want to build a bee-house. Will some one who has one, or who knows, please give a description of it in the BEE JOURNAL? How high, wide and long should it be? I want it for 20 to 30 colonies. Honey is selling here for from 12 to 15 cents per pound.

Protectors of the Bees.—F. M. Herrick, Woodstock, N. Y., on Sept. 2, 1888, writes:

I desire to become a member of the National Bee-Keepers' Union, as I fully indorse all its principles, and realize that in union only is there strength to protect an honest industry. I do not think that I shall ever have any trouble myself, but others may, and I wish to cast my lot with the protectors of the bee. The proceedings of the city authorities in the Arkadelphia case, brings to my mind amusing thoughts, and begging clemency with hope of escaping immediate execution (from the editor) I will submit the following:

> Some folks there are with critic spleen
> Like dogs, who bark at things unseen;
> Not knowing what the bee was made for,
> From whence it came, or what it staid for;
> They think some enemy hath sent it,—
> Thus take occasion to resent it.

How to Control Swarming, etc.—J. F. Eikenberry, Green, Iowa, on Aug. 3, 1888, says:

I took out of my out-door cellar, 27 colonies in good condition in the spring, and lost 6 colonies by spring dwindling. It was very cold and wet so long, that bees could not do anything until June. They commenced to swarm the first of July, and have kept it up until now, a swarm having issued yesterday. I wish that some one would tell me how to control swarming. My bees have done well the last month, and are still working faithfully in the sections. I have now 37 colonies all doing well.

Virgin Queens—Fall Prospects.—G. W. Demaree, Christiansburg, Ky., on August 31, 1888, says:

In answer to query 511, on page 566, I wished to say, "the virgin queen lays *no* eggs until her amatorial period has passed." The omission of the word "*no*" changes my meaning to the reverse of what I intended to say. We have had an abundance of rain since Aug. 16, and there is now fair prospects of fall honey for winter stores, to say the least. The young white clover is partially saved.

Working on Buckwheat, etc.—I. N. Rogers, Jackson, Mich., on Aug. 31, 1888, writes:

So far this has been a very poor honey year for this (Jackson) county. But very few had any white clover honey stored in the sections, and the present indications are that but little fall honey will be obtained. I have 5 colonies that have given me 24 pounds each, gathered from buckwheat, for which I readily obtained 20 cts. per pound. My bees are still working lively on a piece of buckwheat, sown late expressly for them. I would say in regard to bees working on buckwheat, that I have grown it for several years (as much for the bees as for the seed), and have observed that, on a hot, sunshiny day, bees work on it only in the forenoon; but if the day be cloudy and warm, they will work on it the greater part of the day. Only about one-fourth of the bees put into winter quarters last fall, were alive when fruit trees commenced to bloom last spring, and the most of them were very weak. I put 26 colonies into the cellar; I had 19 in chaff hives, and had but 9 colonies to commence the season with—the first loss of any consequence, that I ever met with. Everything is drying up, not having had any rain to speak of, in this immediate vicinity, since early in June.

Bees are Busy.—Geo. G. Scott, Wadena, Iowa, on Sept. 4, 1888, says:

My bees have gathered about 20 lbs. of honey per colony, spring count. The season's yield in this section may be estimated at about half a crop. Fall flowers are yielding well, and bees are very busy.

Small Average per Colony.—D. L. Shapley, Randallsville, N. Y., on Aug. 6, 1888, says:

Bees have got through putting the honey into the sections for this season. It is the poorest season I have seen in six years. I shall not have over 50 lbs. of surplus honey from 6 colonies, spring count; and my bees have done as well as any in this vicinity. There is no honey here to speak of, this year. The average per colony is only about 5 pounds of surplus, and of poor quality at that.

Blessing in Disguise—Increase.—E. B. Morgan, Cleveland, Iowa, on Aug. 31, 1888, writes:

The honey crop in this locality (southern Iowa) is very poor. Different bee-men have told me that they have no honey. The spring was too wet and cold, and the white clover yielded but little; the heads being so loose and straggly; they had lost that symmetrical shape, but I see that the fall clover, or the clover now in bloom, has resumed the old shape. Quite a number of the bee-men feel despondent, and I think I will class myself among them. Still, we had better look upon the bright side, as Dr. Mason says "that two poor seasons may be a blessing in disguise." One thing is sure, that quite a number of our farmer bee-keepers that kept from 10 to 20 colonies are swept out of existence, and have their ill-shaped hives for sale. My 50 colonies are in good condition for winter. The question of preventing increase, that has caused so much study and anxiety to many will, I think, soon be settled. I think that the principle is already discovered, but not being quite sure as to its results, having had such poor season, we must wait; but one thing is sure, it will not be caging old queens and keeping them over from year to year. Young queens for fertility, hence strength of colonies and honey; old queens for drones and swarming.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

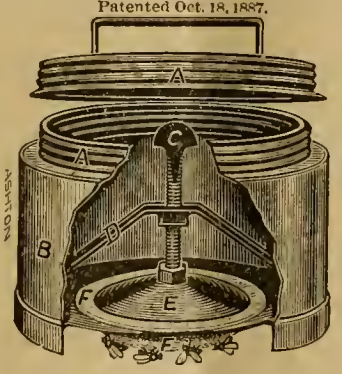
Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Hastings' Perfection Feeder.—This Feeder (illustrated) will hold 2 quarts, and the letting down of the feed is regulated



by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities, according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Honey and Beeswax Market.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 17@18c.; 2-lbs., 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 11 to 12c. Extracted, white, 7½@8c.
Sep. 5. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—Fancy white 1-lbs., 17@18c.; off grades, 15@16c. Fancy white 2-lbs., 13@14c.; off grades, 12c. Extracted, white, 7½@8c. New crop is arriving and demand is good.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Sep. 5. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@15c.; 2-lbs., 11 to 14 cts.; amber, 7@9c. Extracted, white, 5½@6c.; light amber, 5@5½c.; amber and candied, 4½@4¾c. Receipts light and market firm for best qualities.
BEESWAX.—17@21c.
Aug. 25. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best new white comb, 15@16c, with little in sight and slow sales. Market is low, and beekeepers will do better to hold honey until approach of cold weather.
BEESWAX.—21@22c. Supply limited.
Aug. 22. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—New crop offered at 16@17c., demand being very light yet. Extracted is not in much demand, and prices are nominal at 7@8c. for the best grades.
BEESWAX.—22c. R. A. BURNETT,
Aug. 14. 161 South Water St.

CHICAGO.

HONEY.—None here, and market in good condition for new crop. There is some demand for the extracted.
BEESWAX.—22c.
Aug. 2. S. T. FISH & CO., 189 S. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c. Some small lots have sold at 14@16c. Market quiet.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Aug. 24. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices firm, and stock light.
BEESWAX.—None in market.
Aug. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Choice white clover and basswood extracted, 7½@8½c.
Aug. 29. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: New 1-lb. sections, 18@20c.; 2-lbs., 14@16c. New extracted, 8@10c.
BEESWAX.—25 cts. per lb.
Aug. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 5½ cents; light, 5¼c.; amber, 4½@5c. Comb, 1-lbs., 12@14c.; 2-lbs., 9@13c., as to quality. Arrivals not large, and supplies held firmly.
BEESWAX.—Dull at 19@22c.
Aug. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: New white 1-lbs., 18c.; light 1-lbs., 16c. California white 1-lbs., 18c.; light 1-lbs., 16c.; white 2-lbs., 16c.; light 2-lbs., 14c. Extracted, white, 8c.; amber, 7c.
BEESWAX.—18@20c.
Sep. 5. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, 4½@5½c.; if in cans, 8@9c. White clover comb, 14@15c. Market is steady and receipts light.
BEESWAX.—21c. for prime.
Sep. 6. D. G. TUTT & CO., Commercial St.

MILWAUKEE.

HONEY.—New white 1-lb. sections 18c., and very fine, 20c.; 1-lbs. 15@18c.; old 2 and 3 lbs., not salable, 12½@14c.; dark 1-lbs., old or new, 12@13c. Extracted, new white in kegs and ½-barrels, 8@9c.; old, in same packages, 7@8c.; in tin, 8@9c.; dark in barrels or ½-barrels, 6@6½c. Arrivals of new crop small; demand not urgent, and only very moderate trade.
BEESWAX.—22@25c.
Aug. 31. A. V. BISHOP, 142 W. Water S

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Conventions.—The time for holding Bee-Keepers' Conventions has now arrived, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25. It also contains a lot of blank leaves on which you can note important matters as they come up. Do not fail to send for a copy of it.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club. Sample copies will be sent free upon application.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Advertisements.

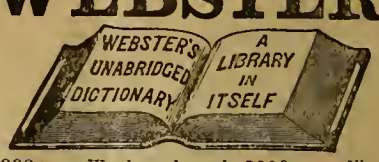
WANTED—Situation. I can manage, or assist in, a practical apiary, can give good references. Please address me. HARRY GALEY,
37A2t GRANBY, PROV. QUE., CANADA.
Mention the American Bee Journal.

WORK FOR ALL $30 a week and expenses paid. Samples worth $5 and particulars free. P. O. Vickery, Augusta, Me.
37A13t
Mention the American Bee Journal.

LANGSTROTH FUND.

A GOOD full length PHOTOGRAPH of Rev. L. L. Langstroth, mounted on cabinet card, will be sent to any address for 50 cts—one-half to go to the "Langstroth Fund." Address,
THOMAS B. REYNOLDS,
36A2t Box 356, DAYTON, OHIO.
Mention the American Bee Journal.

WEBSTER



3000 more Words and nearly 2000 more Illustrations than any other American Dictionary.

Among the supplementary features, unequaled for concise and trustworthy information, are

A Biographical Dictionary

giving brief facts concerning 9,700 Noted Persons of ancient and modern times,

A Gazetteer of the World

locating and describing 25,000 Places; and a Vocabulary of the names of Noted

Fictitious Persons and Places

The latter is not found in any other Dictionary.
Webster excels in SYNONYMS which are appropriately found in the body of the work.
Sold by all Booksellers. Pamphlet free.
G. & C. MERRIAM & CO., Pub'rs, Springfield, Mass.
Mention the American Bee Journal.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

Are You Going to the Fair?

IF so, read THE BEE-KEEPERS' REVIEW for August. It is especially devoted to Apiarian Exhibitions at Fairs, and is contributed to by H. D. Cutting, Prof. A. J. Cook, James Heddon, M. M. Baldridge, M. H. Hunt, R. F. Holtermann, Dr. A. B. Mason and J. H. Martin.

The September Number will be devoted to "Food, and its Relation to the Wintering of Bees."

Price of the REVIEW, 50 cents a year. Samples free. Back Numbers can be furnished.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, W. Z. HUTCHINSON,
35Dtf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

HANDSOME

ONE-PIECE SECTIONS.

WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

BEES FOR SALE.—24 COLONIES in improved movable-frame hives. For terms and particulars, write to
REV. J. D. GEHRING,
36A2t PARKVILLE, Platte Co., MO.
Mention the American Bee Journal.

TESTED GOLDEN ITALIAN QUEENS.

ONE Queen, $1.00; 2 Queens, $1.80; three Queens, $2.60; one-half dozen, $5.00. By Return Mail. HENRY ALLEY,
36A3t WENHAM, MASS.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Sept. 19, 1888. No. 38.

EDITORIAL BUZZINGS.

"Though the mills of God grind slowly,
Yet they grind exceeding small;
Though with patience he stands waiting,
With exactness grinds he all."

Our Query Department is not conducted for the purpose of answering catch-questions or puzzling conundrums. It is solely intended to aid earnest seekers after knowledge in our pursuit.

The Indiana State Fair commenced on Monday. We learn that there is a creditable display of honey among the exhibits.

In France, the month of August has been better for honey-production than July. The honey crop is less than the average, and in some parts the amount of white honey is exceedingly small.

Line Fences divide property, and keep cattle and horses on their owner's land, but bees pay no attention to such divisional lines. The air is their highway, the sunshine their invitation to roam, and the flowers their banqueting halls. Happy, basking, smiling, buzzing, frugal bee! Cunning, stinging, robbing bee!

We have Received a copy of a pamphlet issued by The St. Louis Academy of Sciences, on the Pollination and Perforation of flowers. It is written by Mr. L. H. Pammel (who is well known as a correspondent of the AMERICAN BEE JOURNAL), as a contribution from the "Shaw School of Botany." It is very interesting, and we will make some extracts from it in our next issue.

Hotel Arrangements at Columbus.—Concerning these, Dr. A. B. Mason wrote us from the Centennial Exposition Grounds at Columbus, O., on Sept. 13, 1888, asking us to publish the following notice to bee-keepers who intend to be present at the convention:

If those in attendance at the next meeting of the North American Bee-Keepers' Society will report to me at the place of meeting in the hall of the House of Representatives at any time after 10 a.m., Oct. 3, I will try and be able to tell them where to obtain such entertainment as they may wish. As yet I have not been able to obtain reduced rates at hotels, but may succeed in doing so. Let those coming to the convention take advantage of the reduced railroad rates to the Centennial at Columbus.

An effort has been made to secure reduced rates through the Traffic Associations, but without success.

It is a Poor Economist, says an exchange, who lets surrounding available treasures go to waste. What would you think of the farmer who would not gather the golden grain when it was ripe and waving in the field? Or what would you think of the man who would harvest the new crop and let the old crop go to waste? The man of thrift gathers and saves from every possible source. He lets nothing go to waste. He gathers in his corn and his wheat, his rye and his barley, and he gathers also the honey from the flowers of his fields. It is his, he pays nothing for it. Genial nature plants the flowers and fills their cups with honey, and all he has to do is to get the bees and care for them, to save what would otherwise be lost.

Bees Imprison a Rattler.—The Atlanta *Constitution* relates that a party of men cut a bee-tree near Trompville, Ga. The hollow was found to be filled with honey and comb for a distance of 15 feet. After securing the honey, one of the boys cut into the tree above the portion used by the bees, and found a rattlesnake 3 feet long. As there was no hole in the tree, except the one which contained the honey, the supposition is that the snake crawled up the hollow before the bees began to hive, and the honey-comb had blocked its exit.

Orange Judd, so well known as an agricultural editor, has purchased the *Farmer* of St. Paul, Minn.; has moved it to Chicago, and the first number is on our desk, the name changed to *Orange Judd Farmer*, and making a very creditable appearance. We wish it a very prosperous career, and extend to friend Judd the right-hand of fellowship. With such a manager and editor it must succeed.

A Neat Pamphlet of 32 pages is on our desk, from the St. Joseph Apiary, Missouri. It is written by the Rev. Emerson T. Abbott, and is intended for distribution at the coming fair in that city.

Bee-Stings.—In an exchange Prof. A. J. Cook is credited with the following advice as to what to use for relief from the effects of the stings of bees:

I have ammonia, or hartshorn as it is usually called, always about our apiary, and have found nothing better for bee-stings. This is correct in theory as well as in practice; the active poison of the bee is or contains formic acid; ammonia is an alkali, and neutralizes the acid and so the poison. Dashing the part stung into ice water also gives partial relief; it stops the circulation, and so prevents absorption of the venom. A strong extract of cheap tobacco, made by turning hot water on a cheap cigar is also a partial alleviative. Some regard it superior to ammonia. It is a well-known fact that the bee-poison is itself a kind of vaccine; the more one is stung the less is he affected.

The Old Story about bees puncturing grapes and other fruits, says an exchange, to suck the juice therefrom is pretty well exploded. That they will suck the sweets from any of these fruits that they may find already broken, is true; and seeing them doing this, unthinking persons have jumped to the conclusion that the bee was the original trespasser. A little study of the organism of the bee will show that it has no tools wherewith to comit such depredations. Nature took care of the fruit as far as the bees are concerned, by incapacitating the bees from cutting or boring into it.

We had a Call from Mr. Herbert Brown, who has been sent to the Eastern States from Ventura county, Calif., to "place" several carloads of extracted honey. He reports the California honey crop as larger than it has heretofore been estimated. He says that some of the bee-keepers there have "bought up" all the honey on the market, and "hold it" to "stiffen the prices," as well as to judiciously place it upon the market; thus reducing to a minimum the damage usually done by small producers whose impecuniosity leads them to *sacrifice* their honey crop by accepting the first and lowest amount offered.

One-Third of a Crop.—A. Reusch, of Chariton, Iowa, says he expects to obtain only ⅓ of a crop of honey this year. He writes us thus on Sept. 13, 1888:

The bees in this locality have done but little until Aug. 20. They had been doing well up to last Monday, Sept. 10, when it turned cold, and the wind was in the North. I expect to get a third of a crop of fall honey.

Frank Leslie's Sunday Magazine for October contains many interesting and valuable articles, all freshly written and brightly illustrated. The continued story, "Genevieve," opens the number. It is a story of the Huguenot troubles in France. The poems and short articles are numerous and good, and there are a number of full-page engravings of much beauty. It is a specially good number of this favorite family magazine.

GLEANS OF NEWS.

Preparing Bees for Winter.—Mr. H. E. Hill gives this description of his method of preparing bees for winter, in the *Farm and Home:*

Below I give a brief description of a plan of preparation that, notwithstanding the pollen, hibernation and other theories, has served me in the wintering of hundreds of colonies with a loss not exceeding two per cent. The method being simple, as it is effectual, is especially recommended to those who have but few colonies to care for:

Procure a box (such as may be had at any dry-goods store) from 12 to 24 inches larger than the hive to be packed. After cutting an entrance 6 inches in length by 1½ inches high in one side at equal distances from the sides, I place the box on the summer stand of the hive, and put the hive inside, supported on pieces of wood, at a height that brings the bottom-board to correspond with the entrance.

Then place strips 1½ inches high on either side of the entrance from the hive to the inside of the packing case, resting on the projecting bottom-board, and place a snug-fitting piece of stuff over these, thus forming a passage for the bees from the hive to the open air, and excluding the sawdust or planer shavings which are used for packing. Being now packed snugly beneath and on all sides of the hive, I use no honey-board, but simply cover the frames with a quilt of cotton cloth and a cushion of sawdust, which acts as an absorbent, and may be easily replaced with a dry one if it becomes damp from the escaping moisture of the colony during winter. Over this I put the usual six inches of shavings— or even 24 inches—filling the box. Now place a good roof over them, and all is complete.

Try it, and report your success next May. If by mild, sunny weather the bees are inclined to fly oftener than is desirable, place a short board in front over the entrance, with the bottom resting on the ground, a foot from the box, and over this an armful of straw. This box will darken the entrance, and tend greatly to equalize the temperature inside.

This Dialogue is published in a late number of the *Western Christian Advocate.* The answers to the questions are supposed to be given by one of the disgusted purchasers of some of the patent moth-trap bee-hives which abound in doors, hinges, drawers, corners, etc.:

What is the chief end of bees? To get out patent hives.

What is the best patent hive? The best hive is not patented.

But don't some of these patent hives fool the moth? No; they fool the men who buy them.

What patent hive is the most useful? The new one in the barn with a hen's nest in.

But is there not more money in patent hives than in bees? Yes; but that time is almost over.

But how are we to know a poor hive? It has a great many doors, drawers, hinges, cracks, crevices, nooks and corners which look like conveniences, but in which the bees stick fast.

Who are the great bee-savants of this country? The men who don't use patent hives.

Are bees profitable? Not to those who buy patent hives.

Sense Organs in bees and other insects are worthy of considerable study, and will repay a thorough investigation. In *Murray's Magazine* we find the following very interesting remarks on the subject:

In the matter of sense organs we are met by serious difficulties of interpretation, and this difficulty is the more keenly felt in studying creatures so widely different from ourselves as the bee. Such an insect would seem at first sight to be about as susceptible to the delicacies of touch as an ancient armor-sheathed knight. Head, thorax, abdomen, limbs, all are ensheathed in chitinous armor. The bee has his skeleton outside. The question is, how can delicate impressions of touch be transmitted through the tough, dense skin so as to affect the sensitive "squash" within? If you will examine one of the feelers of the bee you will see that the surface is richly supplied with hairs. It is by means of such sense hairs that the bee experiences a sensation of touch. Each touch hair is hollow, and within it is a protoplasmic filament containing, it would seem, the delicate terminal threadlet of a nerve. A curious modification of the touch hair is found on the last joint of the antennæ. They are here bent sharply at right angles, so as to form rectangular hooklets.

Shipping Colonies of Bees.—The following concerning the shipment of full colonies of bees is from the *Indiana Farmer:*

A great many people seem to think it is next to impossible to ship full colonies of bees by cars, without running a risk that makes it well-nigh out of the question. This is a mistake. Bees properly prepared may be shipped several hundred miles. The frames must be secured in some way so that they will not shake about the hive, and the bees fastened in with wire-screen, so that they can have plenty of fresh air. We usually tack screen over the entrance and over the brood-frames, and ship them with the cover off, and mark them "This side up, with care. Do not cover up. Do not leave in the sun." We also recommend that, where the route is known, they be shipped so that the greater part of the journey may be made at night. Timid express agents are apt to become greatly alarmed at a few robber bees that may hover about, and conclude at once that the bees are escaping. There is no danger of robber bees at night, and it is the coolest part of the day.

The North American Convention at Columbus, O., will soon convene, and all who intend to go should soon be making the arrangements. The following from the Secretary will explain about the railroad fare to and from the Convention:

☞ The North American Bee-Keepers' Society will hold its annual meeting on Oct. 3, 4 and 5, 1888, in Representatives' Hall at the capitol in Columbus, Ohio. The Passenger Traffic Associations will grant reduced rates only when 100 persons are present, holding railroad certificates. Owing to the short honey crop it is feared that a sufficient number of persons will not be present holding certificates, and that an attempt on the part of the Society to avail itself of the reduced rates offered by the Passenger Traffic Associations will only result in disappointment; hence it has been decided that the only course open will be to allow each member to shift for himself, or herself, to either take advantage of such excursion rates as may be available in his or her vicinity, buy round-trip tickets, or do something of the sort.

W. Z. HUTCHINSON, *Secretary.*

September Hints.—Mr. C. H. Dibbern, in the *Western Plowman,* gives the following hints about seasonable work in the apiary:

This is the last month that bees can be reasonably expected to gather any honey. Usually about the 20th of the month we, in this latitude, have a frost that kills the flowers, but if not, the last series of flowers are done blooming, and there is nothing more for the bees to do.

Early this month is the time to know the exact condition of each colony.

While honey is yet coming in is the time to take out the frames and examine them. To guess they are all right, won't do, if you wish to winter them over.

In some localities, feeding will again have to be resorted to. This should be done now, before the nights become too cool, and robbing is more difficult to guard against.

As soon as the gathering season is over, remove all the surplus arrangements and put the bees in condition for winter. Many, especially those who have had two seasons of failure, will become discouraged and careless, and will let the bees shift for themselves, with perhaps not enough honey to carry them to January. That such persons will ever have "no luck" with bees is certain, and perhaps the sooner the bees come out dead, the better. The persevering, intelligent bee-keeper, however, will only strive the more when others around him are giving up, and my experience is that such only will win in any pursuit.

This season has been a peculiar one, in regard to swarming. Usually, in this locality, the bees commence swarming in June and end up early in July. This year they commenced in May, and are swarming some yet. Heretofore, we used to return second, or very late, undesirable swarms by looking over the combs of the swarming colony and removing all the queen-cells and hiving the swarm back in the old hive. We lately hit upon a new wrinkle with the new hive. Now when a late swarm comes out that we do not want to hive separately, or have any weak or queenless colonies to boom up, we simply *invert* the hive that casts the swarm, and return the bees by shaking them on the sheet in front of the hive. So far this has worked nicely, and not one has made a second attempt to swarm. This process, of course, turns the queen-cells (the cause of the bees swarming) wrong side up, and the bees immediately tear them out. If this proves to be the invariable result of inverting, this is another point in favor of invertible hives.

We lately broke up a case of robbing in a very neat way. Going out into the apiary quite early one morning we noticed a colony that seemed to be working with unusual energy. In looking around a little further we soon discovered another colony that was evidently being robbed. Concluding that this last one had lost their queen, we removed it to the shop and examined them, and soon found that to be the fact. We now procured the comb from a nucleus (it is well to have a few such at all times) containing bees, brood and a queen. We exchanged this frame for one of the queenless hives. We now returned this hive to the place of the one doing the robbing, which was removed to the stand of the one that was being robbed. This, of course, threw the robbing business into great confusion. Those trying to rob would simply go into their own hives; if any returned, they only carried the honey back to the hive they had previously robbed. An hour afterwards, all was quiet, and the robbing was completely stopped, and both colonies resumed their honest toils.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Doctors Disagree.—Mr. G. K. Hubbard has this criticism to make on one of our Queries. It appeared in the *Indiana Farmer* recently. Variety is the spice of life. If we all thought and spoke alike there would be no diversity of opinion—no spicy discussions—no progress from the "old ruts" and well-beaten paths of our forefathers. The fact that we disagree on every conceivable subject is the "bulwark of our freedom," and the glory of the nineteenth century. But here is the item:

In the question department of the AMERICAN BEE JOURNAL, the question, "Are eggs ever put into the royal cell?" is answered by a large number of prominent apiarists, and it is actually surprising to see how many answer the question negatively, or in a manner expressing doubt. We do not understand why this should be. We have frequently seen eggs in queen-cells, and in fact have seen it so often that we wonder at our experience being different from so many who are more experienced. We imply that those who express doubt on the subject, think that young larvæ are always used for the purpose. Clearly they are mistaken, as we have often seen eggs in queen-cells appearing to have been deposited as naturally as any in regular worker or drone cells. The question is not one carrying with it facts of much importance, but it makes a splendid illustration of how "doctors disagree" on questions that seem as plain as the alphabet to others.

An Eye Opener.—One of our exchanges contains the following showing that a poor honey crop may be a blessing in disguise:

I think it is not hard to see that this poor season may be a blessing in disguise, and may work for the good of our business. Our large markets have got overstocked with honey, prices had been knocked down by shipping honey into the already overstocked markets, until honey was selling at ruinous prices. The Wiley lie was floating over the country, that there were numerous manufactories where bee-comb was manufactured and filled with glucose syrup, and sealed over with hot irons. The newspapers wafted this story along, and thousands believed the story, although it was so inconsistent.

This failure of honey from the flowers has cleared out the honey markets so that commission men have been calling loudly for honey, at good prices. Where are these glucose manufactories all this time, that they allow the markets to become so bare of honey even at doubled-up prices? This ought to open the eyes of the community on this subject, and strike a death-blow to that infamous lie.

Stinging Bees.—A correspondent from Iowa sends us the following dialogue concerning educating the bees to hold their breath and thus suspend their stinging propensities. Here is the dialogue:

"What have you found to be the best remedy for a bee-sting?" said the reporter.

"Bee-sting! I havn't had an opportunity to use a remedy for years."

"How then, Mr. Fogy, do you manage; or don't your bees sting?"

"Yes, my bees are capable of stinging, but they have had good training. You probably have noticed in some of the bee-literature of the day, a novel way of escaping the sting of a bee by holding your breath."

"Now that idea never occurred to me, but sometime ago I commenced training my bees to hold *their* breath as soon as they felt like stinging, thus preventing the sting, and if you don't believe it, I have them well trained, and you can try it."

Alsike Clover.—In the report of the United States Botanist just issued, in the report of the Commissioner of Agriculture, a copy of which we have received from N. J. Coleman, Esq., we find the following on page 304, concerning the history, development and characteristics of Alsike clover, which will interest our readers:

This differs from common red clover in being later, taller, more slender and succulent. The flower heads are upon long pedi-

Alsike Clover Bloom.

cels, and are intermediate in size and color between those of white and red clover. Its botanical name was so given from its being supposed by Linnæus to be a hybrid between those clovers, but it is now known to be a distinct species. It is found native over a large part of Europe, and was first cultivated in Sweden, deriving its common name from the village of Syke in that country. In 1834 it was taken to England, and in 1854 to Germany, where it is largely grown, not only for its excellent forage, but also for its seed, which commands a high price. In France it is little grown as yet, and is frequently confounded with the less productive *Trifolium elegans*.

The following is condensed from "Les Prairies Artificielles," by Ed. Vianne, of Paris: "Alsike does not attain its full development under two or three years, and should therefore be mixed with some other plant for permanent meadows. It is best adapted to cool, damp, calcareous soil, and gives good results upon reclaimed marshes. It is adapted neither to very dry soils, nor to those where there is stagnant water. Being of slender growth, rye-grass, rye, or oats, are often sown with it, when it is to be mowed. In fertile ground weeds are apt to diminish the yield after a few years, so that it requires to be broken up. It is generally sown in May, at the rate of 6 to 7 pounds of the clean seed per acre. Sometimes it is sown in the pods at the rate of 50 to 100 pounds per acre, either in spring or in autumn after the cereals are harvested.

"Alsike sprouts but little after cutting, and therefore produces but one crop and one pasturage. The yield of seed is usually 130 to 170 pounds per acre. The seed separates more easily from the pods than that of ordinary clover, and as the heads easily break off when dry, care is required in harvesting.

"It does not endure drouth as well as the common red clover, but will grow on more damp and heavy soils, and it is said that it can be grown on land which, through long cultivation of the common clover, has become 'clover sick.'"

Absconding Swarm.—I desire to know the cause of a swarm of bees leaving. It was a very large swarm, which I had tried to prevent swarming, by cutting out queen-cells. I examined each one of the ten brood frames carefully, and cut out eleven cells in different stages of construction. On the second day after this they swarmed. I hived them and gave them a frame of brood, and set the hive on the old stand. They stayed until the next day, when they came out, and, without alighting, went straight to a tree about half a mile away. They had built two large pieces of comb, one on each side of the frame of brood, which contained a small quantity of honey and some eggs. Can you give any reason why they left in this ungrateful manner? The frame of brood which I gave them I took from a hive that had swarmed a few days before, and I thought perhaps the unsealed larvæ were too large.—L. B. POST.

[Your bees had picked out their hollow tree, and got it cleaned out and already fixed up for housekeeping before they swarmed at all. Under such circumstances you could not well induce them to give up their project, especially if you let them remain on the old stand, and this is one very good argument in favor of hiving at some little distance from where the parent colony stood. Where they pick out the location before swarming, they are pretty sure to move to it, sooner or later.—*Gleanings.*]

For the Sixteenth consecutive year Chicago opened up its great Inter-State Industrial Exposition, replete with the best products of science, industry and art, on Wednesday, Sept. 5, and will close Saturday, Oct. 20. The immense structure is now laden to its fullest capacity with the finest and most magnificent exhibits ever displayed; from almost every quarter of the civilized world, illustrating as it does every avenue of human industry in its most complete form, it is almost a necessity that they who would keep abreast of our most advanced ideas in both industry, science and art, should not fail to visit this great Exposition. Every railroad and transportation line running into the city have made reduced rates, and there is every indication that a much larger attendance will follow than any year that has preceded.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club. Sample copies will be sent free upon application.

Golden-Rod.

Written for Our Little Men and Women

BY CLARA DOTY BATES.

An idle Breeze strayed up and down
The rusty fields and meadows brown,
Sighing a grievous sigh, "Ah, me!
Where can the summer blossoms be?"
When suddenly a glorious face
Shone on him from a weedy space,
And with an airy, plumy nod,
"Good afternoon!" said Golden-Rod.

The Breeze received her courtesy;
And then came hurrying home to me,
And eagerly this story told:
"I've seen a lady dressed in gold,
So shining that the very light
That touches her is doubly bright—
She nodded, too, a royal nod."
"Why, that," I said, "is Golden-Rod."

"Come out and see her where she stands,
Gold on her head and in her hands,"
He cried; and I without delay
Went after where he led the way;
And there she stood, all light, all grace,
Illumining that weedy place,
And to us both, with airy nod,
"Good afternoon!" said Golden-Rod.

QUERIES & REPLIES.

Tiering-Up when Working for Extracted Honey.

Written for the American Bee Journal

Query 576.—When extracted honey is desired, is it not preferable to tier up, that is, to use extra stories above instead of taking from the brood-chamber?—N.

Yes.—DADANT & SON.

Certainly.—MRS. L. HARRISON.

Yes.—H. D. CUTTING.

Certainly.—R. L. TAYLOR.

Yes.—J. M. HAMBAUGH.

I think so, decidedly.—A. J. COOK.

Yes.—G. M. DOOLITTLE.

Yes, every time.—EUGENE SECOR.

In most of the cases it is.—J. P. H. BROWN.

Yes, every time.—C. H. DIBBERN.

Opinions differ. I think that I should prefer tiering.—C. C. MILLER.

Yes, sir. It is better if those extra stories above are half-depth. I have used both full and half depth supers for more than fifteen years.—JAMES HEDDON.

If the tiering-up plan is followed, and plenty of room given, it will seldom be necessary to extract from the brood-chamber.—A. B. MASON.

I consider that the best way to gather extracted honey is by tiering-up. I am of this opinion both from experience and observation.—J. E. POND.

Extract from an upper story, as a rule. Sometimes the brood-chamber has too much honey. In that case it should be extracted, or full combs exchanged for empty ones.—M. MAHIN.

Ideal extracted honey can only be had from supers where there can be no suspicion of the juices of brood, and the taste of pollen.—J. M. SHUCK.

Most assuredly it is. To take honey from the brood-nest is a slip-shod, slouchy way of taking surplus. It is but a little better than the old fogy plan of "robbing bees."—G. W. DEMAREE.

I use a two-story hive, and extract as often as I find the honey about two-thirds capped over. It is necessary to occasionally extract from the brood-chamber, so as not to allow the queen to be over-crowded, etc.—P. L. VIALLON

While it is sometimes necessary to extract from the brood-combs, in order to give the queen room to lay, still with proper management and the judicious tiering-up of supers, it will not generally become a necessity. Our *ideal* extracted honey is *always* taken from the virgin comb in the supers—not from the breeding apartment.—THE EDITOR.

Number of Frames Used when Tiering-Up.

Written for the American Bee Journal

Query 577.—1. Are not 12 or 13 frames too many for the brood-chamber, when tiering up? 2. How many would you use below? 3. Would you use the same number above as below, when tiering up?—New York.

1. More than are necessary. 2. Eight. 3. One less.—R. L. TAYLOR.

1. No. 2. Eight Langstroth frames. 3. Yes.—MRS. L. HARRISON.

1 and 2. Nine Langstroth frames are sufficient. 3. I would.—J. P. H. BROWN.

I use nine Gallup frames in the brood-chamber when working for extracted honey.—G. M. DOOLITTLE.

1. Yes. 2. Ten. 3. Yes.—J. M. HAMBAUGH.

1 and 2. That depends upon the size of the frames. 3. Yes.—C. H. DIBBERN.

1. Yes. 2. Seven to eight. 3. Use 8 to 10 above.—H. D. CUTTING.

1. Yes, unless very small. 2. I am not fully settled on that point.—C. C. MILLER.

1. That depends upon the size of the frame. Ten Langstroth frames are not too many, unless the surplus is all wanted in the supers. 3. If for extracting, yes.—A. B. MASON.

1. No, not of the Langstroth size or smaller. 2. We use half-depth frames above, or rather 6 inches deep.—DADANT & SON.

1. Much will depend upon the size of the frame. Ten Langstroth frames or equivalent are, in my opinion, about right, both in the brood-chamber and in the surplus apartments.—J. E. POND.

You do not give the name of your frame. If Langstroth, I would not use more than ten below, and the same size of hive above with one frame less.—EUGENE SECOR.

1. Ten frames are enough. 2. Ten, if for extracted honey; 8 if for comb honey. 3. I use 10 frames in the brood-chamber and 9 above.—P. L. VIALLON.

That depends upon the size of the frames. I have used 12 Gallup frames with success. This leaves plenty in the lower hive for winter.—A. J. COOK.

1. Much depends upon the size of the frames, and something upon the locality and the season. I use in that way from 8 to 11 frames of nearly the Gallup pattern. 3. Yes.—M. MAHIN.

I do not understand the question. If the querist desires comb honey, 12 to 13 Langstroth frames are too many. If he desires extracted honey, 12 to 13 frames may not be too many.—J. M. SHUCK.

1. It depends upon the size of the frames used. 2. In my locality I use 10 Langstroth frames in the brood-chamber. 3. When I use full-depth supers above, I use but 9 frames. In fact, I use but 9 frames in the surplus apartment whether I am using full-depth or half-depth cases. Placing the frames a little wider apart in the surplus cases makes the sealed combs full and plump, and they uncap nicely.—G. W. DEMAREE.

Yes, too many for any brood-chamber, provided they are the size of the Langstroth frame. Never use more than 10 Langstroth frames' capacity in the brood-chamber, and never more than 7 or 8, unless you are practicing contraction at the proper season of the year. The rest of your query is answered in my reply to Query 576.—JAMES HEDDON.

1. That largely depends upon the size of the frames used. 2. I prefer the 10-frame Langstroth hive for all purposes, but would contract the brood-chamber by reducing the number of frames when working for surplus honey. 3. In order to obtain all the surplus in the supers, I should use less frames below, graded by the circumstances.—THE EDITOR.

Query 575.—The answer to this query, by Mr. J. M. Shuck, in last week's BEE JOURNAL, should have read as follows:

I believe it has been established that there is formic acid in honey. I incline to the *belief* that the acid *found* in the honey is developed and incorporated with the honey in the honey-stomach, and tends to preserve the nectar till it ripens, rather than to preserve it after it has been evaporated and sealed.—J. M. SHUCK.

The two italic words in the above answer, by an oversight, were printed incorrectly, and the error was not discovered until after the "forms" were printed.

Convention Notices.

☞ The next meeting of the Union Bee-Keepers' Association will be held at Clayton, Ills., on Thursday and Friday, October 11 and 12, 1888, in the Town Hall at 10:30 a.m. The Park Hotel will charge $1.00 per day; the restaurants 25 cts. per meal. We expect Messrs. Dadant, Hambaugh, Camm and other preminent bee-keepers to be present.

S. N. BLACK, *Pres.*

☞ The Ohio State Bee-Keepers' Association will hold its 6th annual meeting in joint convention with the North American Bee-Keepers' Society at Columbus, O., on Oct. 3, 4 and 5, 1888. A special business session of the Ohio State Bee-Keepers' Association will be held on Oct. 4, to elect officers for the coming year, and for the transaction of other business. This business meeting will not interfere with the regular programme of the National convention of the same day.

FRANK A. EATON, *Sec.*

CORRESPONDENCE.

PLEASANTRIES.

Time of Buckwheat and White Clover Bloom.

Written for the American Bee Journal

BY DR. C. C. MILLER.

In response to the request of the editor on page 563, I reply that in this locality, and I think it is the general rule in all localities, the nectar disappears from buckwheat bloom by the middle of the day, so that whereas there is no trouble from robbing in the forenoon when buckwheat is yielding, care must be taken to avoid everything like exposure of combs or honey in the afternoon. Something, however, depends upon the weather, for if the morning is cold or rainy, the forenoon of buckwheat bloom may be extended into the afternoon.

It is well to be somewhat familiar with the habits of flowers as to blooming, although buckwheat is the most notable exception to the general rule that flowers yield nectar all day long.

White Clover Blooming and Not Yielding Nectar.

Considerable apprehension was felt in this locality about the crop of white clover this summer. The summer of 1887 was so very dry that white clover seemed to be burnt up,root and branch, and the question was whether the summer of 1888 would see any white clover, and if some did come from seed, whether it would be forward enough to blōom. I never watched more closely in the spring for the first appearance of growth. Contrary to my expectation, I think that I never saw so much white clover starting. I cannot say, although I should like to know,whether it came from the roots of last year or from the seeds.

Then I watched to see whether it would bloom. Soon the blossom buds appeared in profusion, and my fears for the season subsided. I awaited with confidence the gathering of a bountiful harvest, for I feel sure I never before saw the ground more white with clover bloom, and I *think* that I never saw any thing to equal it. But the flood of nectar seemed slow about coming, and after the time for it was all over, I was obliged to confess that I was a "false prophet," and that very little honey was gathered from white clover.

Now what was the trouble? Is it true that white clover, as some have stated, produces no nectar the first summer it comes from seed? It certainly looked a little that way this year, providing the clover all came from seed this spring or last fall; and yet I can hardly believe there is any difference between a blossom on a plant a few weeks old, and one on a plant a year older. If the blossom needs nectar to call insects to fertilize it, will not the young plant produce it just as well as the old one? I really would like some one who can speak with authority, to tell us more about this plant and its habits.

That Honeyed-Man.

This man was mentioned on page 579, and I agree with the editor that it was nothing strange that the man received no stings from the bees alighting upon the honey daubed on him. But I suspect there is very little foundation—very likely no foundation whatever—for the whole story. Let us look at it.

A man daubed himself with honey, 800 bees that were swarming in the woods alighted on him and stayed there until he transported them home. In the first place, when bees are swarming, they are very intent upon the one thing—swarming. I very much doubt if you could get 800, or 80 bees, of a swarming colony to alight upon a man daubed with honey for the sake of getting the honey. They are not just then in the honey-gathering business. But suppose you could get them to depart from their usual habit, and forsaking the cluster or the swarm in the air, settle upon the man, how long would they stay there? Just long enough to load up with honey and then off they would fly, and no bee would come back for a second load to the man unless he stood still at the spot where the bee left him.

You may bid defiance to the worst robbers by simply keeping on the move anything you want to protect from them. So I suspect that the whole thing originated in the brain of some one anxious to get up a sensational item for the newpapers. Sensational items are in demand, and we can expect nothing different so long as the *truth* is not more highly valued than sensations.

The Wiley Pleasantry.

This "pleasantry" owed its popularity and its successful run to the fact that it was sensational. It is not that newspapers or reporters so much prefer the false to the true. A true sensation is preferable to one that is false, but there is a lamentable absence of care as to whether truth or falsehood is promulgated, providing only that it is sensational. Get up a contradiction of the Wiley statement that shall be equally sensational,and it will promptly go the rounds. But no matter how strong may be Prof. Wiley's retraction, it will not be likely to find currency anywhere except in the columns of those papers specially devoted to the interests of bee-keepers. The retraction may be very true, but it is not sensational.

The holding the breath to prevent stinging goes the rounds for the same reason, and the bee-periodicals are not altogether guiltless, because at least two of them have published it with no word as to its truth or falsity. We hardly ought to blame other papers for neglecting to inquire closely into the truth of every item admitted to their columns, if the same thing is done right in our own ranks. A notable instance of this is in the following:

The Sting-Trowel Theory.

That bees ever use their stings to work wax, I believe is just as untrue as that artificial comb honey is made, and yet this error had its origin entirely among bee-keepers. It is true that it is not like the Wiley affair in mischievous tendency, and I do not suppose Mr. Clarke would have made the statement he did, if he had supposed mischief would arise from it; still he was far from warranted in putting forth as an ascertained fact, that which was a mere play of his imagination. I do not believe he ever had any proof that his fancy was a fact, and I confess I would very much like to see Mr. Clarke himself the first one to give the "sting-trowel" its quietus. I would like this for the sake of the truth, and also for the sake of Mr. Clarke as well.

Marengo, Ills.

FALL FLOWERS.

The Autumn Honey-Flow in the Middle States.

Written for the Grange Bulletin

BY H. B. GEER.

After the heat of the summer has passed, and the first fall rains begin, then spring into life and beauty the autumn flowers that are usually loaded with delicious nectar—resorts of pleasure and profit for the millions of honey-bees, that, after some weeks of idleness and inactivity, are only too glad to again return to the fields and their duties.

During the spring and early part of last summer the flowers, such as struggled into existence despite the drouth—were nearly or entirely fruitless, and the sources of honey very limited indeed. But after the rain had come again, it brought out the autumn flowers here in Tennessee, and also, as I learn, in Missouri, and the honey-flow during the month of September was better and more of it than during all the previous months of the year.

Chief among the fall honey-plants of Tennessee, is the golden-rod. Here it blooms in great profusion, and its bright golden plumes may be seen nodding and waving in nearly every field and meadow—especially in the waste places or fallow land, and in the fence corners. It yields honey of a rich yellow color which has a very pleasant flavor. In fact I think it the finest honey that our bees can obtain from any source in the fall of the year.

In Missouri, where the writer is interested in apiculture, the asters are our chief reliance for fall honey. There they bloom in great profusion from about the first of September until frost. There are a great many varieties of asters, and they all yield a fair grade of honey, which every bee-keeper is glad to receive, after the spring and summer supply has proven a failure, as was the case last season.

Honey partakes of the nature of the flowers from which it is gathered, more perhaps than one would suppose. For

instance, in the spring of the year when the flowers are fragrant and loaded with perfume, the nectar gathered from them is likewise fragrant and delightful, and seems to emit the sweetness of the fields, and the wild flowers themselves. The delicate fragrance of the white clover bloom is well-known, and, as if in keeping with its delicate nature, the honey it yields surpasses all others in flavor and pleasurable taste.

On the other hand, the honey from the fall flowers, while equally sweet and pure, is devoid of the fragrance and pleasant smell that the early season honey possesses. Likewise the autumn flowers seldom emit a pleasant perfume, although they rival in beauty their kindred of the springtime.

CANADA.

Report of the Haldimand, Ont., Convention.

Written for the American Bee Journal

BY E. C. CAMPBELL, *Sec.*

A meeting of the Haldimand Bee-Keepers' Association was held at Fisherville, Ont., on Saturday, Sept. 1, 1888. The minutes of the previous meeting were read and confirmed.

How and What to Feed Bees.

The President said that granulated sugar should be fed, as it was safer than to risk feeding cheap sugar. He made a thick syrup by putting the granulated sugar into boiling water, and stirring it frequently to keep it from burning. He exhibited a Canadian feeder, showing how it worked, and urged early feeding, so that the bees could cap their stores before cold weather. It was also necessary to feed in the evening, so as to avoid robbing.

Mr. W. Kindree's plan was the same as the President's, only that he boiled the sugar a little more than Mr. Armstrong. He thought that by doing so the syrup was not so apt to granulate.

Mr. Mehlenbacher described his plan of feeding, which was by tipping the hive up in front, and pouring the syrup behind the division-board.

Mr. Overholt used a similar feeder to the Canadian, and found it ahead of any other.

Mr. Best had always used honey, but this year he would have to try sugar, as he had no honey. He had wintered a colony on 15 pounds of honey, and it had wintered all right.

Mr. Atkinson made syrup the same as described by Mr. Armstrong, and used inverted glass jars as feeders.

How to Unite Colonies of Bees.

The President gave his plan of uniting colonies, which was to gradually move the colonies to be united, towards each other until they were close together, and then spreading the frames apart, and putting in frames alternately; he then gives the bees a good smoking, and the work is done.

Thirteen members reported 252 colonies, spring count, and 375 colonies, fall count; from which it is seen that the increase has been very small, besides no surplus honey taken; and what is worse, the bees have not stores enough to winter on, and will have to be fed.

The next meeting of the association will be held at Cayuga, at the call of the President.

HONEY-JUMBLES

Of the North American Convention of 1887.

Written for the American Bee Journal

BY A COUNTRY BEE.

"All N. A. B. K'a (wrote H., the recorder) were
Summoned to appear before the President Miller,
Each bringing one dollar in paper or silver;
And at the Commercial Hotel please regiater,
In Chicago, Ills., the 16th of November."

A No. 1 *Root* responded with his "A B C's;"
Armstrong came on with his hive and T-supers;
And *Aspinwall* wrote that if we'd organize,
All delegates should receive that "Magazine" of his—
"Life ne'er exulted in so rich a prize."

Bees (*Genus Homo*) were *Baldridge, Baldwin, Barber, Boardman, Miss Bennett, T. F. Bingham*, the smoker, *Betsinger, T. S. and Joshua Bull* (not Johnny), *Bedell*, and *Burnett*, who is not a *B(ur)master*,
Although he well knows how to handle the honey.

"We may live without friends, we may live without books"—
But this Society "cannot live without *A. J. Cook*,"
Compton, of Glenwood, *Crocker*, *Cumins* and *Comstock*,
Were very modest, and did not give us much talk,
But the deficiency was made up by *Mr. Wilcox*.

"While a-gathering of bee-bread for their living,"
Hubbard, whose ancestor "went to the cupboard," and
Found *Hopkins*, of O. (kin of Hop-'o-my-thumb).
Speaking of H's, *Lemmer* see; *Dr. Haskin, Hutchinson*,
Hilton and *Heddon*—the "hanner" goes to Michigan.

Lyman, Forncrook, and *Thornton*, no doubt ought to be,
"I the man in the moon, this thornbush, my thornbush."
D. G. and *G. W. Webster* (decendants of Daniel and Noah);
Hear our *Betsinger*, "Oh, velvet bee you're a dusty fellow,
You've powdered your legs with gold," all yellow.

"O *Woodman* spare that (*Dahl* linden honey) tree,"
Cried *Funk, Staininger*, "'mid the trees, where humming-bees
Extract the nectar from the bright flowers.
Here the *Redmond*, who once chased *Reynolds*, the fox,
Now extracts the "extracted honey" with the extractor.

Beside our President, were *B. J.* and *M. M. Miller, Gilson* who sent to fetch a pail of (Mc) *Whorter;*
That reminds us of that young "Tribune" reporter,
Who thought our "countrified look peculiar;"
If he'd seen one buzzing drone, he'd not have been so jocular.

Mrs. Searles—"hark to the music, the drum and the fife."
A *Taylor, Cumins, Davenport* with his wife.
Jones, Esher, Murphy, and *Gander. Dethloff*—my life,
Neimetz! I'm *Fullmer* than *Hawks*, when chickens are rife.
Another room for exhibits, would lessen the strife.

I hear the bees swarming, and while watching for the queen,
Oh, *Gould*, I see the one who sang, "Keep our *Graves, Green*."
"I *Lovett*, (*Sweet, Hart*), or *Stanton*, in the *Parks*,
With *Wilson, Thompson, Robertson*, or even the *Holtermann*.

When the *Oatman* was *Stow* (ed) in the hopper,
With *Newman, Secor*, and *McLain* the Professor,
By the hardest of *Davis* work our *Strong Miller*,
Turned us out a grist of very *Good* flower.
"And here by thee, will hum the bee, forever and forever."

The flower was left with the *Cook*, by *Chapman*;
Who turned it over to the ladies and gentlemen.
Some *Marvin* that the flavor was equal to linden—
"Excuse me, but will our *Good* friend, *Dr. Mason*,
Be so kind as to see to the ventilation?"

Our hearts went out to Father Langstroth,
With the hope that his remaining days on earth,
May be filled with sweetness around his hearth,
And the conscious thought of the good he has wrought,
For the bee-keeping people, bring joy to his heart.

Thanks were tendered to Mr. Thomas W. Cowan,
Who, being such an able "microscopian,"
Gave pleasure and profit to all who met him;
While regretting his absence, at *Prof. Cook's* suggestion,
He was made honorary member of this Convention.

Thanks to *Thomas G. Newman* again and again,
For his excellent arrangements with the hotel-man,
For his thoughtful good-will shown on every hand;
To mention this Society, is to think of his name.
"He has served thee as none would," still sounds the refrain.

For President, the genial *Dr. A. B. Mason*,
For Secretary, the efficient *W. Z. Hutchinson*,
For Treasurer, *Mrs. Harrison*, who uses no deception,
They were *Secor* (ed) officers at the election,
Without a *Wakeman's* or *Woodman's* dissension.

"We may learn of the bee, the wise man's lore,
The hand of the diligent gathereth store."
At Columbus, Ohio, "If this life be not o'er,"
On the 3rd of October, "May we meet once more."
Till then, success to you all, *Au revoir*.

MAPLE TREES.

Insect Enemies Mowing Them Down—Plant Lindens.

From the Detroit, Mich., Tribune

SEPTEMBER 3, 1888.

Dr. W. C. Stevens of Fourteenth avenue has devoted considerable attention to the destructive insects from whose ravages the maple trees are suffering so severely. He expresses the belief that there is not one sound maple tree in a hundred under five years old in Detroit. On some whole streets he has been unable to find a single tree unaffected by the pest. The same state of affairs seems to prevail among the shade trees throughout the country east of Detroit.

Dr. Stevens recently wrote to Prof. Cook of the Agricultural college relative to the matter. The professor in his reply says that the same destruction of maples in Detroit referred to by the Doctor is noticeable in Lansing and in every other city in the state. He pronounces a specimen insect, which Dr. Stevens sent him, the grub of a common maple tree borer, *Plagionotus speciosus*, which is very harmful to trees all over Michigan. They attack large, thrifty trees and have destroyed many maples in Jackson, Lansing and other places. The beetle, which appears in July and August, is a large, handsome longicorn, black in color and striped with a rich yellow.

The pupa case which the Doctor sent is pronounced by the professor that of a caterpillar, *Ægeria acerni*. This beautiful moth lays her eggs in July, and the caterpillars feed on the inner bark for one year. It is black, striped with yellow and orauge. This insect, Prof. Cook says, is also doing much to destroy the maples.

More harmful than either of these varieties is the big-headed apple tree borer, which is a very serious enemy of the maples, especially young or newly transplanted trees. This beetle attacks trees whose vigor has been checked. Thus it is that it is so destructive to trees recently transplanted. Prof. Cook

recommends that the trunks of trees be washed early in June and July with a strong solution of soap, to which one-tenth of its volume of crude carbolic acid has been added, especially for two or three years after setting. Still better is good care—spading about the trees and adding a generous mulch every spring for five or six years after planting.

"Why do we plant so many maples?" is a conundrum propounded by the professor in his reply. He estimates that throughout the state ten maples are planted to one of any other species. He refers to the elm as a beautiful tree, and one, which, in this locality, is yet free from serious attack. Still the elm-leaf beetle in the East is moving West rapidly, and the canker worm is a fatal enemy of the tree. The basswood or linden is a handsome tree, a more vigorous grower than either maple or elm, and is comparatively free from insect enemies. With the same care five, and the professor guesses ten, lindens survive to one maple. It is also an admirable honey-tree, and so has much economic value.

"If we must plant maples," concludes the professor, "give them the best of care and wash them with the solution mentioned each June and July for some years after planting, but it is far better to plant the beautiful linden, which with half a chance, if stock is kept away, will live, thrive and mature."

STINGING BEES.

Something in the Honey Causes Bees to Sting.

Written for the American Bee Journal

BY SOLOMON W. JEWETT.

No pure honey can be found in America in any quantity or in any condition, that has not gone through the chemical laboratory of the honey-bee, or some other insect that stores this peculiar sweet, which has properties as food and medicinal, that cannot be found outside of its deposits in the comb by some insect. Most people have yet to learn this, and many other simple things in nature not yet learned.

There are other matters relating to bees that I find many apiarists have not discovered, namely, in the working of the bees among some flowers, they become more irritable, and more liable to use their simple weapons of warfare, than they do when gathering sweets, and the pollen, or anything which they are seeking to convey to their rural home. Some wild flowers, and the buckwheat flower, contain more poison, and is more virulent than clover, or from the willow, etc.

When working on the flower of buckwheat, sometimes they are so overcharged with poison, that they are quite inclined to sting man and animals, seemingly to relieve themselves of this surfeit; and we find it in the honey sometimes, by partaking of a little fresh honey (gathered and stored by these arch chemists, as deposited in the comb), which will give griping pains; and this poison is in less quantities in the seed. By continuing along for sometime, daily partaking of buckwheat cakes, it shows the effects on the cuticle or skin of the body, and even the scalp may feel this dry roughness, and an itching sensation when nothing of the kind had been felt before.

We have some people who keep fowls, that speak in favor of buckwheat to make hens lay; but that is a mistake; they may lay in their seasons because it is their nature, but if one will only observe how dry and dead their feathers become, and stand out as though they were suffering pain, they might desist from putting before these birds buckwheat as food.

Simple Remedy for Bee-Stings.

There is a simple remedy at hand, for those afflicted with pain from eating too freely of this honey gathered from buckwheat. It is simply to take a swallow of the weak solution of soda and water, and it is one among the best remedies to apply wherever the bee, the wasp, or the snake has inserted its venom through the sting into man or animal flesh.

But there is another remedy that will draw out poison from the snake bite. Kill and open the body of a hen or bird, and lay it on the stung place; it will extract the poison, reduce the swelling, and remove the pain. At the usual swarming season, should one have the solution of common baking soda, or saleratus, on hand, it will destroy the effects of the bee-sting at once, if applied.

Rutland, Vt.

MARKETING.

Disposing of the Honey Crop to Commission Men, etc.

Written for the American Bee Journal

BY REV. J. D. GEHRING.

It is easier to learn the bee-business so as to know how to produce nice comb honey, than it is to learn how to dispose of it to the best advantage.

Last year I had no trouble to dispose of all I had at 20 cents a pound. This year I cannot sell a pound to the same grocerymen in Kansas City. When I called on them the other day, I asked, "Can I sell you some nice, white clover honey?" One answered: "No, sir! We have more honey now than we can sell. Nobody wants honey." Another, "Is it nice and white? Sections well filled out and unbroken?" To which I could promptly reply in the affirmative.

"How much do you want for it?" Eighteen cents, net.

"Don't want it!"

And 18 cents a pound is 2 cents less than the quoted market price! These same men are retailing it at 25 cents. Something is wrong somewhere. What is it?

We have two firms in Kansas City who make comb honey a specialty. They now quote 18 and 20 cents for first-class comb honey. I presume they sell to retailers at those prices. I do not know how they sell it in large lots; but I know that they have a "buying price" and a "selling price," for when I ask, "What is the price of the best comb honey?" they will cast upon me a look peculiar to a Kansas City commission man, and answer my question "Yankee fashion," thus: "Do you want to buy or sell?"

I have a few hundred pounds to sell at 18 cents.

"Don't want it! Piles of it on hand now."

Who is glutting (?) the Kansas City market *this year*. I wonder? Some "big bee-men in the East," I am told!

What a queer state of affairs! The bee-papers inform the anxious, tired and disgusted *small* bee-man that there is a very light honey crop in the country. He can say "amen" to the statement, for he is *one* of them. But New York bee-keepers send honey by the carload (?) all the way to our own market; and our commission men cannot be convinced that honey is scarce.

"If you want to consign your honey, we'll take it and sell it for you. But we can't guarantee any particular price, as the demand is light."

"You see?" No, some bee-keepers don't "see" that they are helping a syndicate of commission sharpers to control the honey market, and that they are making it easy for those men to treat us poor, small struggling fellows with haughty contempt.

I tell you, Mr. Editor, we ought not to stand such an outrage! I am only a small "Dutchman," and have no great amount of "stock" invested in bees and honey; but, sir, I am big with indignation! Even a Dutchman will find out a thing or two when he is exasperated. Let me tell you what I mean:

Not many years ago a man, whom I know quite well, had some honey to sell. He was a "poor preacher," and needed money, so he sent it to a commission man who said he could probably (?) get 17 cents for it. But when the preacher collected for his honey, he got only 15 cents minus the "commission"—because "we couldn't get 17 cents."

Well, one day, sometime after the transaction with the commission man, the preacher saw some honey in a grocery store which he thought looked exactly like his 1½-pound sections. He asked the price, and found they were retailing it at 25 cents a pound. He asked where they got it, and was told at —— commission house. It was his honey, no doubt. But as it was a delicate question to ask the merchant what price he paid for the honey, this preacher sent a man (who didn't want to buy honey) to inquire the price, and was told that, as that was "particularly nice honey," they had to ask 18 cents (!) for it.

That Dutchman has ever since been a little careful about accepting the gift of a "stencil plate," ready for use, from a commission house.

Hadn't we better form a "honey trust?"

Parkville, Mo.

[We *trust* that the last sentence is a joke, Bro. Gehring. The word itself is distasteful to us. We have trusted so

much in our business career, that we are now mourning the loss of many thousands of dollars *trusted!* Then about "honey trusts," it was only a few months ago that the papers would have it that the New York bee-keepers were to hold a meeting to form a "honey trust," which was to accomplish *wonders!* But there was no truth in it. Two years ago a Honey Producers' Association was talked of when the honey crop was of fair proportions, and if such a plan as then presented could be carried out, it would be productive of much good. Such an association would practically put an end to the swindling done by *dishonorable* commission men (for there are such, though there are also many honorable ones) who sell at one price, and report to producers at another and lower one. There are *sharpers* and swindlers in all occupations, and honey commission men are no exception to the rule.—ED.]

NEW YORK.

An Average Honey Crop of 30 lbs. per Colony.

Written for the American Bee Journal
BY H. J. ROGERS.

The season for surplus has closed here, and the result is not very encouraging; however, we have some honey, and are thankful.

My 80 colonies were put into winter quarters last fall with plenty of bees and honey, and came out in the spring without any loss; but five colonies were rather weak, and I lost 3 out of the 5 by spring dwindling.

The cold, backward spring kept the brood from spreading very fast, so that when apple blossoms appeared, most colonies were not very strong. For the first season here since I have kept bees, apple blossoms yielded no nectar, and I soon found some of my colonies on the verge of starvation; especially those that I had transferred. I fed all the honey I had on hand, and also considerable sugar syrup.

About June 1 raspberries opened, and about four-fifths of my colonies commenced work in the sections, and I secured about 2,000 lbs. of very nice honey, all in the comb. At this time we were getting copious rains, and it looked as if clover would be a fine harvest, but it yielded very little, scarcely more than last season.

This section is always favored with lots of buckwheat, and when I found that the basswood was a total failure, I hoped we would get a "big run" from buckwheat. This, too, has failed on account of a frost, which has ended all work in the sections for this season.

It is well known that bees do not work on buckwheat except a few hours in the early part of the day—sometimes they cease work at 11 o'clock, but generally as soon as 1 o'clock. I think I have never seen a bee work as late as 3 p. m. on buckwheat.

I have not had any increase this season, mainly, I think, on account of the large, roomy hives which I use. They take 10 frames of the Langstroth size, and hold 40 sections 4¼ x 4¼ x 1 15-16, in each super. I think they are as good non-swarming hives as there are in existence, not excepting the "Cotton Hive."

If my bees had swarmed, I should not have a pound of surplus: as it is, I have 30 lbs. per colony. We will now commence to prophesy concerning the crop of 1889, which *surely* ought to be very large.

Stannard's Cor., N. Y., Sept. 3, 1888.

THE FAIRS.

Will it Pay to Exhibit Bees and Honey?

Written for Gleanings in Bee-Culture
BY DR. A. B. MASON.

Agricultural fairs set in motion the best elements of farm life, and stir up the ambition of those interested, and all *are* interested in the success of the undertaking. It is an advertisement for the community and for persons interested; and if the display is good it gives a good reputation to the exhibitor.

"Like other productive industries, bee-keeping is not exempt from uncertainties as to results, and few things bring to the bee keeper so many pleasant and profitable things as does a display of bees, honey, and apiarian appliances," at the annual and other State, county, and district fairs and expositions. Wherever such an exhibit is made it is a nucleus around which bee-keepers gather, and in a quiet, pleasant, and profitable way exchange ideas and discuss matters "new and old." An incident at the Tri-State Fair held here two years ago made a more lasting impression on me than hours of ordinary talking or pages of reading-matter might have done. An elderly farmer, some would have called him an "old codger," wanted to buy some bees of me. We talked over prices, etc., and I thought a bargain was about made, when he asked me if I used the extractor. When I told him I did, it would have done any melancholy dyspeptic good to see the expression of disgust that spread over his face as he said, "I don't want any of *your* bees." Strange as it may seem, I had to laugh in spite of all my efforts to the contrary, and I saw that this oracle knew that the extractor is responsible for the great winter mortality among bees, for he afterwards told me so. I believe he tried to purchase bees of every bee-keeper there, and with the same result.

If there is a business that requires a man who can express in his face, at one and the same time, disgust, contempt, and anywhere from ten to ten thousand other kinds of expressions, I would most earnestly recommend that gentleman as the best-qualified man to run that business that I ever met.

These exhibits aid us in our efforts to popularize the use of honey as food and medicine. They will also help to raise the standard of excellence, both quality and attractiveness of honey put upon the market. New ideas will be disseminated, new methods will be learned, and old ones discarded.

Bees and honey are always great attractions at fairs; and to hear the "fat" expressions and quaint sayings of "smart" country people and city "dudenes" is enough to add years of happy life to the average age of those who enjoy such things. To listen to fond papas and doting mammas as they explain to their children, who are all eyes and ears at such times, the mysteries of the hive, and how the bees "make honey" while they are shut in the hive at the fair, and how a honey-extractor works either as a washing-machine, an ice-cream freezer, or a churn, will cause a change in the facial expression of such stoics as Mr. Hutchinson and a score or more others whom I might name, but space forbids; and such matter-of-fact men as our friend A. I Root gather new enthusiasm and energy from such displays of sweetness, and the consequent contact with wise and *other*wise people.

The first year I lived here, the premium offered by the Tri-State Fair was five dollars "for the best show of honey." I found the "show" set away on a high shelf among other things, and where it was seen by but few. It consisted of a rough box, holding about twenty pounds of comb honey, with glass in one end of the box. I spoke to officers of the society about the matter, and the result was the offering of over $100 the next year as premiums, and the next year $208. For six years the Bee and Honey Department has been a "fixture," and, like other departments, has a superintendent, etc.; and last fall it was said to be "the most attractive exhibit on the grounds." The exhibit in 1882 was small compared to what it has since become, and was described in the AMERICAN BEE JOURNAL by the editor, who assisted in awarding the premiums, as a "grand success. The small corner set apart for the bee and honey show was so crammed all the time that it was with great difficulty any one could get through the crowd, and utterly impossible for many who desired to examine the exhibits to even get within a stone's throw of them."

I want to say a few kind words about friend T. G. Newman. When we first started out to make an exhibition of honey, etc., at the Tri-State Fair in 1882 and also in 1883, he kindly consented to help us, and came from Chicago to Toledo and spent three days each year, without "fee or reward," in aiding in judging, and starting us off in good shape. A. I. Root and C. F. Muth and others helped us in 1883, and we have tried each year to improve on the previous one.

The exhibit at the St. Joseph, Mo., fair has become one of its most attractive features; and for five or six years past the Michigan bee-keepers have made a large and attractive display at

their State Fair, and have a separate building for their exhibit, and the premium-list was gradually worked up by Mr. Cutting, Prof. Cook, and others, from next to nothing to over $300. At Toronto, Canada, have been made some of the largest (if not *the* largest) and most attractive exhibitions of honey and apiarian appliances ever made on this continent.

I believe honey should be made the main attraction. A display of bees and queens is always "in order," and calls forth more quaint and original expressions from the crowd of sight-seers than even the extractor does. Many an old "residenter" has taken pains to put on the second pair of eyes to see "the king-bee who bosses all the other bees, and tells them what to do," and then, after being told it is a queen, and the mother of the bees, hurries off to hunt up some friend or member of the family to show them "the mother of all the bees."

Supplies are viewed with curiosity; but honey, that "sweetest of sweets, excepting the lasses that we all love to greet," is the great attraction, and creates a desire to *taste* that which to many is so irresistible that a purchase has to be made before the visitor is satisfied, and then, when leaving, frequently turns and casts longing glances at the tempting display of luscious sweetness.

The skill displayed in making honey exhibits in some of the countries of Europe is so great, and the display so attractive, that it is not a rare thing to have them visited by common people, as well as by kings and queens; and it is largely the fault of the bee-keepers themselves if like attractive and instructive displays are not made at the different fairs throughout this country; and I have yet to learn that the managers of any fair have regretted having done what they could to call forth an exhibit of honey, but all have been surprised at the beauty and attractiveness of a well-prepared display.

The Stark Co., O., Agricultual Society, at the solicitation of the Stark Co. Bee-Keeper's Soceity, last year appropriated $100, to be given, as premiums for bees and honey, etc. and $150 for the erection of a building for the display of things pertaining to the apiary.

If all county and State agricultural societies cannot be induced to give fair premiums for the products of the apiary, without doubt enough can be secured to more than pay expenses; but some one or more bee-keepers must look after the matter, and be sure that it is attended to. It will *not* take care of itself.

The question with us all very properly arises, "Does it pay to be to all this expense and trouble?" The same question very naturally arises, also, in regard to any kind of an exhibit at fairs, and each will have to answer the question for himself.

On page 221 of *Gleanings* for 1887, J. H. Martin puts this matter before us very nicely. He says, "Does it *pay* to spend time and money to advertise the honey business? If we look around us, we see every trade making strenuous efforts to get ahead. Take up the most obscure county paper, and every trade is represented in its columns. Our most successful merchants are the ones who 'catch on' to every advertising novelty to be used in the extension of their business. Our fairs are the red-hot centers of attraction and advertising, through all lines of business, with the exception, perhaps, of bee-keeping.

"Probably the hardest thing for a spirited bee-keeper to bear, at the present time, is the general belief that bee-keeping is a small business, and that any ninny who knows just enough to chew gum, can successfully produce honey; and bee-keepers, as a rule, are following a course of action to confirm people in that belief; for if a business is not worth a little advertising effort, it is not much of a business."

It seems to me that a few bee-keepers in each county where honey is produced can make it *pay* to be to the necessary expense and trouble of making a nice and attractive exhibit. To be sure, it has to be "mixed with taste and brains," and that is just what every successful bee-keeper, or his wife, has a supply of. See that the premiums are enough to *pay expenses* (which need not be heavy), and trust to sales, etc., for the "net proceeds."

One thing has been fully demonstrated by the exhibits of honey at fairs, and that is, that bee-keeping is fully abreast of other productive industries; and when compared with some, is much ahead in attractiveness and value.

The honey exhibition at the Ohio Centennial Exposition at Columbus, from Sept. 4 to Oct. 9, is not to be made just for the money there is in it, but to show the progress in bee-culture during the last hundred years; and it is hoped that it will be the largest and most attractive that has ever been held in this country; and, so far as I know, those engaged in the matter have the vim and push to do credit to the fraternity. Just think of a building 36x80 filled with the luscious God-given sweet! I have seen tons of honey piled up at fairs that did not make as much show as one-fourth the amount might have been made to do.

Anburndale, O.

FOUL BROOD.

What Produces It?—Sulphuric Acid Treatment.

Written for the American Bee Journal

BY WILLIAM KLINTWORTH.

It is easier to ask a question than to answer it. We may have theories upon certain things, but if our theories are not founded upon facts that corroborate our ideas, our theories have no foundation, and are not worth much. What creates foul brood? We might ask, what creates sickness, such as typhoid fever, yellow fever, and other diseases that occur more in some localities than others?

If we could see atmosphere, or the production of decayed vegetation, in its true light, we would know more about diseases than we do now. But we know those things only in part. It is clear to my mind that the same cause produces chills and fever, yellow fever and typhoid, and some other diseases; but how much of that substance it takes to create a certain disease, cannot be stated with any certainty. But after it is developed it is not merely a dead substance, but has life in itself, and takes possession of its victim. Then the question comes to us, what can we do to kill that, and not hurt the bees and brood?

There are several things that will destroy foul brood, but we cannot apply them. When a colony of bees has foul brood, it not only affects the brood, but bees and queen also, and consequently they should then be fed, or we will not always accomplish our object. If I found foul brood among my bees, I would feed them all, for it would be hard to tell how soon it would develop in those that I could not discern anything wrong, and at the same time were diseased.

How to Feed Sulphuric Acid.

I will now describe how to feed sulphuric acid: Take 60 drops of sulphuric acid to one pint of water, and add one pint of honey. Mix it thoroughly, and that will do to feed. I prefer to feed from beneath, but if I could not do so, I would take the bees and frames out of the box. I would then take 60 drops of sulphuric acid to one pint of water, and wash the inside of the box thoroughly with it, and then put the bees back into the box, and feed the best way I could with the preparation. I have fed one quart of it to one colony of bees inside of 24 hours.

The Fire Treatment of Foul Brood.

I know that some who have had experience with foul brood, recommend burning the bees, but I must confess that I have failed to see it in that way. Suppose I had only 3 or 4 colonies of bees, and had discovered that they were foul, I would then take them and burn them, hives, bees, and all. The question comes to me, what have I gained by doing so?

But suppose I had a larger number, and find that some of them are foul, and burn them; and in a few days I find some more, and do the same with them, and I do so until I have burned them all—where are my profits? I keep bees for pleasure and profit. As long as everything goes all right, I get plenty of honey—I think much of my bees. But when they get diseased, I burn them alive! Does that not look hard?

But we say, "It can't be cured with any certainty." How do we know? Have we tried everything that we can? If I had foul brood among my bees, and I had no other remedy, before I would burn them, I would take the bees and brush them off the comb into a box, as if I would ship them. I would take box, frames and all, except the bees, and put them into a bleach box, or a big dry-goods box. I would take a half pound of sulphur, put it into an

iron kettle or something fire-proof, and place it in the box with the hive. Then set the sulphur afire. After it had burned, put the hive on the old stand, and put the bees into it. That will kill the brood and eggs, and save the hive, frame and bees. Has any one ever tried it?

Marietta, Ohio.

CONVENTION DIRECTORY.

1888	*Time and Place of Meeting.*
Sept. 25, 26.	Cedar Valley, at Cedar Falls, Iowa. J. J. Owens, Sec., Waterloo, Iowa.
Sept. 26.	Progressive, at Newburg, O. Miss Dema Bennett, Sec., Bedford, O.
Oct. 3-5.	North American, at Columbus, O. W. Z. Hutchinson. Sec., Flint, Mich.
Oct. 4.	Ohio State, at Columbus, O. Frank A. Eaton, Sec., Bluffton, O.
Oct. 11, 12.	Union, at Clayton, Ills. S. N. Black, Pres., Clayton, Ills.
Dec. —.	Michigan State, at Jackson, Mich. H. D. Cutting. Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Yield of Fall Honey.—Jno. A. Thornton, Lima, Ills, on Sept. 5, 1888, says:

The yield of fall honey will be good. I will have an average surplus of about 35 lbs. per colony. The quality is equal to clover, as some of it was from red clover. The largest yield is from smart-weed. My 200 colonies have gathered a good supply for winter besides the above amount of surplus.

A Blooming Curiosity.—J. C. Bell, Belton, Tex., on Aug. 31, 1888, writes:

I send a blossom that made its appearance about April 1, from which the bees gathered quite a quantity of honey for 60 days. Since the rains set in on Aug. 18, it is blooming again. What is it? Bees have done finely in Texas this year.

[This is not yet identified. It is a curiosity, and I should much like to have a pressed specimen showing more of the plant. Please address it to T. J. Burrill, Champaign, Ills.]

Chapman Honey-Plant Seed.—H. Chapman, of Versailles, N. Y., on Sept. 10, 1888, gives the following information in reply to a question by Mr. R. Bacon, on page 596:

The seed of the Chapman honey-plant should be collected as soon as the balls commence to turn brown; the balls should be spread upon platforms until thoroughly cured, when the seed can be easily shaken from the heads. But to separate the seed from the capsule, requires more labor. I accomplish this with a machine devised by myself, and which consists of a cylinder thickly studded with steel teeth, and which is made to revolve within another cylinder, from the inner sides of which project steel teeth. It is unnecessary to remove the capsules from seed used at home, but I have always cleaned that which I sold.

Heart's-Ease Honey.—John Haskins, Empire Prairie, Mo., on Sept. 7, 1888, writes:

Three to four weeks ago it seemed as though I should have had another failure with my bees; but about the middle of August they commenced to swarm, and no person that has not seen bees working on the heart's-ease can form but little idea how fast they will gather honey. The colonies that three weeks ago I did not know would gather enough honey to winter on, will probably give me in comb honey from 100 to 150 pounds each. There are thousands of acres of heart's-ease here.

Gay Feather.—D. W. McDaniel, of Hamilton, Ills., on Sept. 3, 1888, says:

I send a specimen of a honey-plant to be named. It grows on thin clay soil, and from 2 to 4 feet in hight. Bees work on the blossoms all day. The bloom commences at the top of the spike, and blossoms downward. Please give its name in the "old reliable" AMERICAN BEE JOURNAL.

[This is "gay feather" (*Liatris scariosa*); not known to be specially valuable for honey; but like other "compound" flowers, it is a great pollen producer.—T. J. BURRILL.]

No Swarms or Honey.—Mr. John Boerstler, Vashon, Wash. Ter., on Sept. 7, 1888, says:

I am not discouraged yet, although the bees did not swarm or store one pound of surplus honey this year. In the spring it was too wet, and after that they secured a good supply of stores, and will have plenty to winter on; but not a pound for me. I will have to do without honey this year. All right; I guess I am not the only one in that "boat."

Hedge Hyssop, etc.—T. M. Coleman, Glendon, Iowa, on Aug. 28, 1888, writes:

I send you a part of a plant which grows in a corner of my lot, that I do not recollect of ever seeing before this season. It grows about 6 to 7 feet high, and the bees work on it as if they liked it. Will you please state, in the BEE JOURNAL, what it is.

Bees are doing nothing as to surplus honey. My colonies have been strong all the season, and I have not had an ounce of honey and no swarms this season. The most of them stored in about enough to winter on, from the linden trees, of which I have a good bee-range.

[This is "hedge hyssop" (*Lophanthus scrophularifolius*); like most of the mint family, it is an excellent honey-plant.—T. J. BURRILL.]

Excessive Swarming, etc.—Mr. Franklin Wilcox, Mauston, Wis., on Sept. 10, 1888, writes:

The bees have not worked "according to rule" this season. They wintered fairly well, but dwindled very badly in the spring. I had 3 swarms in June; they swarmed almost every day from the middle of July to Sept. 4. I have kept bees for 20 years, and I have never had so much swarming as this year. I hived nearly all the first swarms on full combs on the old stands, cut out queen-cells, and hived back after-swarms; in this way all colonies have been kept strong. The crop of honey is better than last season, though rather below an average. The honey season usually ends by Aug. 20, but this year it continued good till Sept. 4, since which time only the buds of black-oak have yielded a clear, fine-flavored nectar. From sunrise till 9 o'clock it may be seen in drops on the ends of dark-colored, shining buds. It is no honey-dew. It has lasted a week or more. I never saw it before, and may never see it again.

Happily Disappointed.—Rev. S. Roese, Maiden Rock, Wis., on September 1, 1888, says:

The very heavy rains have ceased here, and we have now had 10 days' fair weather, after the winter wheat in shocks was nearly spoiled, and all other crops but corn (so far) a total failure. We have had for the last week or so, a fair honey-flow, and I feel happily disappointed. The bees are taking advantage of this opportunity. Since my last report I have extracted over 400 lbs. of honey, and take off about the same number of pounds of comb honey, for which I feel thankful.

Honey Coming in Freely.—J. E. Pryor, Dexter, Iowa, on Sept. 13, 1888, writes:

Up to Aug. 1 our bees scarcely stored enough honey to keep them from starving; in fact, in June we had to feed to keep them breeding. But since Aug. 15 I think I never saw bees do any better. I have had 10 or 12 swarms since Aug. 22, all of which will have considerable surplus honey. Swarms that were hived on full frames of foundation, had their hives filled with honey to the exclusion of the queens, in from 4 to 6 days. The honey is of the finest quality of fall honey, very thick and heavy, and is still coming in quite freely. Our bees will be in splendid condition for winter. I increased my apiary from 48 to 76 colonies, by natural swarming.

Bee-Keepers' Union.—Dr. H. J. Scoles, Knoxville, Iowa, on Sept. 10, 1888, says:

As to the change of time of election of officers and payment of dues to the Bee-Keepers' Union, I vote "No!" I think that it would be a detriment to the Union, and decrease the membership instead of increasing it. It would bring the election and renewal of membership at a time when the bees are in winter quarters, and there is no fear or talk of the bees interfering with any one; and all would rest content, and be more likely to forget, than they would if it came at a time when it required attention.

☞ The 6th annual meeting, and basket picnic, of the Progressive Bee-Keepers' Association will be held on Wednesday, Sept. 26, 1888, at the residence of Mr W. S Wait, in Newburg, Geauga Co., Ohio. All are invited to be present. DEMA BENNETT, *Sec.*

☞ The Cedar Valley Bee-Keepers' Association will hold its annual meeting at the Council Rooms, Cedar Falls, Iowa, on Sept. 25 and 26, 1888. All who are interested in bees and honey are cordially invited to be present. J. J. OWENS, *Sec.*

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1, postpaid.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

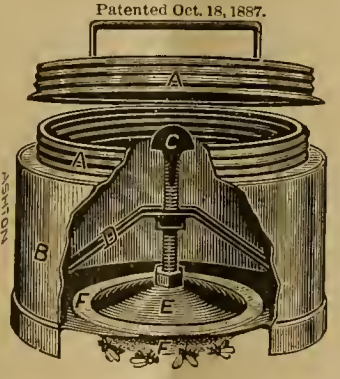
Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Hastings' Perfection Feeder.—This Feeder (illustrated) will hold 2 quarts, and the letting down of the feed is regulated



by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St,

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c. R. A. BURNETT,
Sep. 12. 161 South Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 17@18c.; 2-lbs., 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 11 to 12c. Extracted, white, 7½@8c.
Sep. 5. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—Fancy white 1-lbs., 17@18c.; off grades, 15@16c. Fancy white 2-lbs., 13@14c.; off grades, 12c. Extracted, white, 7½@8c. New crop is arriving and demand is good.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Sep. 5. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@15c.; 2-lbs., 11 to 14 cts.; amber, 7@9c. Extracted, white, 5¼@6c.; light amber, 5@5¼c.; amber and candied, 4¼@4¾c. Receipts light and market firm for best qualities.
BEESWAX.—17@21c.
Aug. 25. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best new white comb, 15@16c, with little in sight and slow sales. Market is low, and beekeepers will do better to hold honey until approach of cold weather.
BEESWAX.—21@22c. Supply limited.
Aug. 22. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c. Some small lots have sold at 14@16c. Market quiet.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Aug. 24. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices firm, and stock light.
BEESWAX.—None in market.
Aug. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14½@15½c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@7½.
Sep. 13. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: New 1-lb. sections, 18@20c.; 2-lbs, 14@16c. New extracted, 8@10c.
BEESWAX.—25 cts. per lb.
Aug. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 5½ cents; light, 5¼c.; amber, 4½@5c. Comb, 1-lbs., 12@14c.; 2-lbs., 9@13c., as to quality. Arrivals not large, and supplies held firmly.
BEESWAX.—Dull at 19@22c.
Aug. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: New white 1-lbs., 18c.; light 1-lbs., 16c. California white 1-lbs., 18c.; light 1-lbs., 16c.; white 2-lbs., 16c.; light 2-lbs., 14c. Extracted, white, 8c.; amber, 7c.
BEESWAX.—18@20c.
Sep. 5. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, 4½@5½c.; if in cans, 8@9c. White clover comb, 14@15c. Market is steady and receipts light.
BEESWAX.—21c. for prime.
Sep. 6. D. G. TUTT & CO., Commercial St.

MILWAUKEE.

HONEY.—New white 1-lb. sections 18c., and very fine, 20c.; 1-lbs. 15@18c.; old 2 and 3 lbs., not salable, 12½@14c.; dark 1-lbs., old or new, 12@13c. Extracted, new white in kegs and ½-barrels, 8@9c.; old, in same packages, 7@8c.; in tin, 8@9c.; dark in barrels or ½-barrels, 6@6½c. Arrivals of new crop small; demand not urgent, and only very moderate trade.
BEESWAX.—22@25c.
Aug. 31. A. V. BISHOP, 142 W. Water S

Conventions.—The time for holding Bee-Keepers' Conventions has now arrived, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25. It also contains a lot of blank leaves on which you can note important matters as they come up. Do not fail to send for a copy of it.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscriptiou to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

We Have some copies of the old edition of Cook's Manual left, which we will sell at the old price, $1.25. The price of the new edition is $1.50 per copy; a notice of which may be found on page 579.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Queens.—We can mail a Tested Italian Queen (bred for the best results as well as for beauty) for $2.00; Untested Queens $1.00 each, or $9.00 per dozen. Orders solicited.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Advertisements.

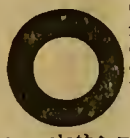
WANTED—Situation. I can manage, or assist in, a practical apiary; can give good references. Please address me. HARRY GALEY,
37A2t GRANBY, PROV. QUE., CANADA.
Mention the American Bee Journal.

BEE-KEEPERS, TAKE NOTICE!

TO INTRODUCE our SECTIONS we will from now until Jan. 1, 1889, sell A No. 1, all-white Sections at $2 75 per M; and secood class at $2.25 per M. All other Supplies at a corresponding low figure. ☞ Price-List and samples free. Address,
R. H. SCHMIDT & CO.,
38A1t NEW LONDON, WIS.
Mention the American Bee Journal.

HANDSOME
ONE-PIECE SECTIONS.

WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.
THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.



The BUYERS' GUIDE is issued March and Sept., each year. It is an encyclopedia of useful information for all who purchase the luxuries or the necessities of life. We can clothe you and furnish you with all the necessary and unnecessary appliances to ride, walk, dance, sleep, eat, fish, hunt, work, go to church, or stay at home, and in various sizes, styles and quantities. Just figure out what is required to do all these things COMFORTABLY, and you can make a fair estimate of the value of the BUYERS' GUIDE, which will be sent upon receipt of 10 cents to pay postage,
MONTGOMERY WARD & CO.
111-114 Michigan Avenue, Chicago, Ill.
38A13t
Mention the American Bee Journal.

Jones' Frame Pliers.

FOR taking frames out of hives, or moving them in any way desired. It is made of Japanned iron, and can be utilized in many ways. It has a long claw for loosening frames, and a hook which may be used for carrying other frames besides the one held by the Pliers. Price, 40 cents., by mail. By express, 30 cents.
THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

TESTED GOLDEN ITALIAN QUEENS.

ONE Queen, $1.00; 2 Queens, $1.80; three Queens, $2.60; one-half dozen, $5.00. By **Return Mail.** HENRY ALLEY,
36A3t WENHAM, MASS.
Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Sept. 19, 1888. No. 38.

EDITORIAL BUZZINGS.

"**Though** the mills of God grind slowly,
Yet they grind exceeding small;
Though with patience he stands waiting,
With exactness grinds he all."

Our Query Department is not conducted for the purpose of answering catch-questions or puzzling conundrums. It is solely intended to aid earnest seekers after knowledge in our pursuit.

The Indiana State Fair commenced on Monday. We learn that there is a creditable display of honey among the exhibits.

In France, the month of August has been better for honey-production than July. The honey crop is less than the average, and in some parts the amount of white honey is exceedingly small.

Line Fences divide property, and keep cattle and horses on their owner's land, but bees pay no attention to such divisional lines. The air is their highway, the sunshine their invitation to roam, and the flowers their banqueting halls. Happy, basking, smiling, buzzing, frugal bee! Cunning, stinging, robbing bee!

We have Received a copy of a pamphlet issued by The St. Louis Academy of Sciences, on the Pollination and Perforation of flowers. It is written by Mr. L. H. Pammel (who is well known as a correspondent of the AMERICAN BEE JOURNAL), as a contribution from the "Shaw School of Botany." It is very interesting, and we will make some extracts from it in our next issue.

Hotel Arrangements at Columbus.—Concerning these, Dr. A. B. Mason wrote us from the Centennial Exposition Grounds at Columbus, O., on Sept. 13, 1888, asking us to publish the following notice to bee-keepers who intend to be present at the convention:

If those in attendance at the next meeting of the North American Bee-Keepers' Society will report to me at the place of meeting in the hall of the House of Representatives at any time after 10 a.m., Oct. 3, I will try and be able to tell them where to obtain such entertainment as they may wish. As yet I have not been able to obtain reduced rates at hotels, but may succeed in doing so. Let those coming to the convention take advantage of the reduced railroad rates to the Centennial at Columbus.

An effort has been made to secure reduced rates through the Traffic Associations, but without success.

It is a Poor Economist, says an exchange, who lets surrounding available treasures go to waste. What would you think of the farmer who would not gather the golden grain when it was ripe and waving in the field? Or what would you think of the man who would harvest the new crop and let the old crop go to waste? The man of thrift gathers and saves from every possible source. He lets nothing go to waste. He gathers in his corn and his wheat, his rye and his barley, and he gathers also the honey from the flowers of his fields. It is his, he pays nothing for it. Genial nature plants the flowers and fills their cups with honey, and all he has to do is to get the bees and care for them, to save what would otherwise be lost.

Bees Imprison a Rattler.—The Atlanta *Constitution* relates that a party of men cut a bee-tree near Trompville, Ga. The hollow was found to be filled with honey and comb for a distance of 15 feet. After securing the honey, one of the boys cut into the tree above the portion used by the bees, and found a rattlesnake 3 feet long. As there was no hole in the tree, except the one which contained the honey, the supposition is that the snake crawled up the hollow before the bees began to hive, and the honey-comb had blocked its exit.]

Orange Judd, so well known as an agricultural editor, has purchased the *Farmer* of St. Paul, Minn.; has moved it to Chicago, and the first number is on our desk, the name changed to *Orange Judd Farmer*, and making a very creditable appearance. We wish it a very prosperous career, and extend to friend Judd the right-hand of fellowship. With such a manager and editor it must succeed.

A Neat Pamphlet of 32 pages is on our desk, from the St. Joseph Apiary, Missouri. It is written by the Rev. Emerson T. Abbott, and is intended for distribution at the coming fair in that city.

Bee-Stings.—In an exchange Prof. A. J. Cook is credited with the following advice as to what to use for relief from the effects of the stings of bees:

I have ammonia, or hartshorn as it is usually called, always about our apiary, and have found nothing better for bee-stings. This is correct in theory as well as in practice; the active poison of the bee is or contains formic acid; ammonia is an alkali, and neutralizes the acid and so the poison. Dashing the part stung into ice water also gives partial relief; it stops the circulation, and so prevents absorption of the venom. A strong extract of cheap tobacco, made by turning hot water on a cheap cigar is also a partial alleviative. Some regard it superior to ammonia. It is a well-known fact that the bee-poison is itself a kind of vaccine; the more one is stung the less is he affected.

The Old Story about bees puncturing grapes and other fruits, says an exchange, to suck the juice therefrom is pretty well exploded. That they will suck the sweets from any of these fruits that they may find already broken, is true; and seeing them doing this, unthinking persons have jumped to the conclusion that the bee was the original trespasser. A little study of the organism of the bee will show that it has no tools wherewith to comit such depredations. Nature took care of the fruit as far as the bees are concerned, by incapacitating the bees from cutting or boring into it.

We had a Call from Mr. Herbert Brown, who has been sent to the Eastern States from Ventura county, Calif., to "place" several carloads of extracted honey. He reports the California honey crop as larger than it has heretofore been estimated. He says that some of the bee-keepers there have "bought up" all the honey on the market, and "hold it" to "stiffen the prices," as well as to judiciously place it upon the market; thus reducing to a minimum the damage usually done by small producers whose impecuniosity leads them to *sacrifice* their honey crop by accepting the first and lowest amount offered.

One-Third of a Crop.—A. Reusch, of Chariton, Iowa, says he expects to obtain only ⅓ of a crop of honey this year. He writes us thus on Sept. 13, 1888:

The bees in this locality have done but little until Aug. 20. They had been doing well up to last Monday, Sept. 10, when it turned cold, and the wind was in the North. I expect to get a third of a crop of fall honey.

Frank Leslie's Sunday Magazine for October contains many interesting and valuable articles, all freshly written and brightly illustrated. The continued story, "Genevieve," opens the number. It is a story of the Huguenot troubles in France. The poems and short articles are numerous and good, and there are a number of full-page engravings of much beauty. It is a specially good number of this favorite family magazine.

GLEANS OF NEWS.

Preparing Bees for Winter.—Mr. H. E. Hilf gives this description of his method of preparing bees for winter, in the *Farm and Home:*

Below I give a brief description of a plan of preparation that, notwithstanding the pollen, hibernation and other theories, has served me in the wintering of hundreds of colonies with a loss not exceeding two per cent. The method being simple, as it is effectual, is especially recommended to those who have but few colonies to care for:

Procure a box (such as may be had at any dry-goods store) from 12 to 24 inches larger than the hive to be packed. After cutting an entrance 6 inches in length by 1½ inches high in one side at equal distances from the sides, I place the box on the summer stand of the hive, and put the hive inside, supported on pieces of wood, at a height that brings the bottom-board to correspond with the entrance.

Then place strips 1½ inches high on either side of the entrance from the hive to the inside of the packing case, resting on the projecting bottom-board, and place a snug-fitting piece of stuff over these, thus forming a passage for the bees from the hive to the open air, and excluding the sawdust or planer shavings which are used for packing. Being now packed snugly beneath and on all sides of the hive, I use no honey-board, but simply cover the frames with a quilt of cotton cloth and a cushion of sawdust, which acts as an absorbent, and may be easily replaced with a dry one if it becomes damp from the escaping moisture of the colony during winter. Over this I put the usual six inches of shavings— or even 24 inches—filling the box. Now place a good roof over them, and all is complete.

Try it, and report your success next May. If by mild, sunny weather the bees are inclined to fly oftener than is desirable, place a short board in front over the entrance, with the bottom resting on the ground, a foot from the box, and over this an armful of straw. This box will darken the entrance, and tend greatly to equalize the temperature inside.

This Dialogue is published in a late number of the *Western Christian Advocate.* The answers to the questions are supposed to be given by one of the disgusted purchasers of some of the patent moth-trap bee-hives which abound in doors, hinges, drawers, corners, etc.:

What is the chief end of bees? To get out patent hives.

What is the best patent hive? The best hive is not patented.

But don't some of these patent hives fool the moth? No; they fool the men who buy them.

What patent hive is the most useful? The new one in the barn with a hen's nest in.

But is there not more money in patent hives than in bees? Yes; but that time is almost over.

But how are we to know a poor hive? It has a great many doors, drawers, hinges, cracks, crevices, nooks and corners which look like conveniences, but in which the bees stick fast.

Who are the great bee-savants of this country? The men who don't use patent hives.

Are bees profitable? Not to those who buy patent hives.

Sense Organs in bees and other insects are worthy of considerable study, and will repay a thorough investigation. In *Murray's Magazine* we find the following very interesting remarks on the subject:

In the matter of sense organs we are met by serious difficulties of interpretation, and this difficulty is the more keenly felt in studying creatures so widely different from ourselves as the bee. Such an insect would seem at first sight to be about as susceptible to the delicacies of touch as an ancient armor-sheathed knight. Head, thorax, abdomen, limbs, all are ensheathed in chitinous armor. The bee has his skeleton outside. The question is, how can delicate impressions of touch be transmitted through the tough, dense skin so as to affect the sensitive "squash" within? If you will examine one of the feelers of the bee you will see that the surface is richly supplied with hairs. It is by means of such sense hairs that the bee experiences a sensation of touch. Each touch hair is hollow, and within it is a protoplasmic filament containing, it would seem, the delicate terminal threadlet of a nerve. A curious modification of the touch hair is found on the last joint of the antennæ. They are here bent sharply at right angles, so as to form rectangular hooklets.

Shipping Colonies of Bees.—The following concerning the shipment of full colonies of bees is from the *Indiana Farmer:*

A great many people seem to think it is next to impossible to ship full colonies of bees by cars, without running a risk that makes it well-nigh out of the question. This is a mistake. Bees properly prepared may be shipped several hundred miles. The frames must be secured in some way so that they will not shake about the hive, and the bees fastened in with wire-screen, so that they can have plenty of fresh air. We usually tack screen over the entrance and over the brood-frames, and ship them with the cover off, and mark them "This side up, with care. Do not cover up. Do not leave in the sun." We also recommend that, where the route is known, they be shipped so that the greater part of the journey may be made at night. Timid express agents are apt to become greatly alarmed at a few robber bees that may hover about, and conclude at once that the bees are escaping. There is no danger of robber bees at night, and it is the coolest part of the day.

The North American Convention at Columbus, O., will soon convene, and all who intend to go should soon be making the arrangements. The following from the Secretary will explain about the railroad fare to and from the Convention:

☞ The North American Bee-Keepers' Society will hold its annual meeting on Oct. 3, 4 and 5, 1883, in Representatives' Hall at the capitol in Columbus, Ohio. The Passenger Traffic Associations will grant reduced rates only when 100 persons are present, holding railroad certificates. Owing to the short honey crop it is feared that a sufficient number of persons will not be present holding certificates, and that an attempt on the part of the Society to avail itself of the reduced rates offered by the Passenger Traffic Associations will only result in disappointment; hence it has been decided that the only course open will be to allow each member to shift for himself, or herself, to either take advantage of such excursion rates as may be available in his or her vicinity, buy round-trip tickets, or do something of the sort.

W. Z. HUTCHINSON, *Secretary.*

September Hints.—Mr. C. H. Dibbern, in the *Western Plowman,* gives the following hints about seasonable work in the apiary:

This is the last month that bees can be reasonably expected to gather any honey. Usually about the 20th of the month we, in this latitude, have a frost that kills the flowers, but if not, the last series of flowers are done blooming, and there is nothing more for the bees to do.

Early this month is the time to know the exact condition of each colony.

While honey is yet coming in is the time to take out the frames and examine them. To guess they are all right, won't do, if you wish to winter them over.

In some localities, feeding will again have to be resorted to. This should be done now, before the nights become too cool, and robbing is more difficult to guard against.

As soon as the gathering season is over, remove all the surplus arrangements and put the bees in condition for winter. Many, especially those who have had two seasons of failure, will become discouraged and careless, and will let the bees shift for themselves, with perhaps not enough honey to carry them to January. That such persons will ever have "no luck" with bees is certain, and perhaps the sooner the bees come out dead, the better. The persevering, intelligent bee-keeper, however, will only strive the more when others around him are giving up, and my experience is that such only will win in any pursuit.

This season has been a peculiar one, in regard to swarming. Usually, in this locality, the bees commence swarming in June and end up early in July. This year they commenced in May, and are swarming some yet. Heretofore, we used to return second, or very late, undesirable swarms by looking over the combs of the swarming colony and removing all the queen-cells and hiving the swarm back in the old hive. We lately hit upon a new wrinkle with the new hive. Now when a late swarm comes out that we do not want to hive separately, or have any weak or queenless colonies to boom up, we simply *invert* the hive that casts the swarm, and return the bees by shaking them on the sheet in front of the hive. So far this has worked nicely, and not one has made a second attempt to swarm. This process, of course, turns the queen-cells (the cause of the bees swarming) wrong side up, and the bees immediately tear them out. If this proves to be the invariable result of inverting, this is another point in favor of invertible hives.

We lately broke up a case of robbing in a very neat way. Going out into the apiary quite early one morning we noticed a colony that seemed to be working with unusual energy. In looking around a little further we soon discovered another colony that was evidently being robbed. Concluding that this last one had lost their queen, we removed it to the shop and examined them, and soon found that to be the fact. We now procured the comb from a nucleus (it is well to have a few such at all times) containing bees, brood and a queen. We exchanged this frame for one of the queenless hives. We now returned this hive to the place of the one doing the robbing, which was removed to the stand of the one that was being robbed. This, of course, threw the robbing business into great confusion. Those trying to rob would simply go into their own hives; if any returned, they only carried the honey back to the hive they had previously robbed. An hour afterwards, all was quiet, and the robbing was completely stopped, and both colonies resumed their honest toils.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Doctors Disagree.—Mr. G. K. Hubbard has this criticism to make on one of our Queries. It appeared in the *Indiana Farmer* recently. Variety is the spice of life. If we all thought and spoke alike there would be no diversity of opinion—no spicy discussions—no progress from the "old ruts" and well-beaten paths of our forefathers. The fact that we disagree on every conceivable subject is the "bulwark of our freedom," and the glory of the nineteenth century. But here is the item:

In the question department of the AMERICAN BEE JOURNAL, the question, "Are eggs ever put into the royal cell?" is answered by a large number of prominent apiarists, and it is actually surprising to see how many answer the question negatively, or in a manner expressing doubt. We do not understand why this should be. We have frequently seen eggs in queen-cells, and in fact have seen it so often that we wonder at our experience being different from so many who are more experienced. We imply that those who express doubt on the subject, think that young larvæ are always used for the purpose. Clearly they are mistaken, as we have often seen eggs in queen-cells appearing to have been deposited as naturally as any in regular worker or drone cells. The question is not one carrying with it facts of much importance, but it makes a splendid illustration of how "doctors disagree" on questions that seem as plain as the alphabet to others.

An Eye Opener.—One of our exchanges contains the following showing that a poor honey crop may be a blessing in disguise:

I think it is not hard to see that this poor season may be a blessing in disguise, and may work for the good of our business. Our large markets have got overstocked with honey, prices had been knocked down by shipping honey into the already overstocked markets, until honey was selling at ruinous prices. The Wiley lie was floating over the country, that there were numerous manufactories where bee-comb was manufactured and filled with glucose syrup, and sealed over with hot irons. The newspapers wafted this story along, and thousands believed the story, although it was so inconsistent.

This failure of honey from the flowers has cleared out the honey markets so that commission men have been calling loudly for honey, at good prices. Where are these glucose manufactories all this time, that they allow the markets to become so bare of honey even at doubled-up prices? This ought to open the eyes of the community on this subject, and strike a death-blow to that infamous lie.

Stinging Bees.—A correspondent from Iowa sends us the following dialogue concerning educating the bees to hold their breath and thus suspend their stinging propensities. Here is the dialogue:

"What have you found to be the best remedy for a bee-sting?" said the reporter.

"Bee-sting! I havn't had an opportunity to use a remedy for years."

"How then, Mr. Fogy, do you manage; or don't your bees sting?"

"Yes, my bees are capable of stinging, but they have had good training. You probably have noticed in some of the bee-literature of the day, a novel way of escaping the sting of a bee by holding your breath."

"Now that idea never occurred to me, but sometime ago I commenced training my bees to hold *their* breath as soon as they felt like stinging, thus preventing the sting, and if you don't believe it, I have them well trained, and you can try it."

Alsike Clover.—In the report of the United States Botanist just issued, in the report of the Commissioner of Agriculture, a copy of which we have received from N. J. Coleman, Esq., we find the following on page 304, concerning the history, development and characteristics of Alsike clover, which will interest our readers:

This differs from common red clover in being later, taller, more slender and succulent. The flower heads are upon long pedi-

Alsike Clover Bloom.

cels, and are intermediate in size and color between those of white and red clover. Its botanical name was so given from its being supposed by Linnæus to be a hybrid between those clovers, but it is now known to be a distinct species. It is found native over a large part of Europe, and was first cultivated in Sweden, deriving its common name from the village of Syke in that country. In 1834 it was taken to England, and in 1854 to Germany, where it is largely grown, not only for its excellent forage, but also for its seed, which commands a high price. In France it is little grown as yet, and is frequently confounded with the less productive *Trifolium elegans*.

The following is condensed from "Les Prairies Artificielles," by Ed. Vianne, of Paris: "Alsike does not attain its full development under two or three years, and should therefore be mixed with some other plant for permanent meadows. It is best adapted to cool, damp, calcareous soil, and gives good results upon reclaimed marshes. It is adapted neither to very dry soils, nor to those where there is stagnant water. Being of slender growth, rye-grass, rye, or oats, are often sown with it, when it is to be mowed. In fertile ground weeds are apt to diminish the yield after a few years, so that it requires to be broken up. It is generally sown in May, at the rate of 6 to 7 pounds of the clean seed per acre. Sometimes it is sown in the pods at the rate of 50 to 100 pounds per acre, either in spring or in autumn after the cereals are harvested.

"Alsike sprouts but little after cutting, and therefore produces but one crop and one pasturage. The yield of seed is usually 130 to 170 pounds per acre. The seed separates more easily from the pods than that of ordinary clover, and as the heads easily break off when dry, care is required in harvesting.

"It does not endure drouth as well as the common red clover, but will grow on more damp and heavy soils, and it is said that it can be grown on land which, through long cultivation of the common clover, has become 'clover sick.'"

Absconding Swarm.—I desire to know the cause of a swarm of bees leaving. It was a very large swarm, which I had tried to prevent swarming, by cutting out queen-cells. I examined each one of the ten brood frames carefully, and cut out eleven cells in different stages of construction. On the second day after this they swarmed. I hived them and gave them a frame of brood, and set the hive on the old stand. They stayed until the next day, when they came out, and, without alighting, went straight to a tree about half a mile away. They had built two large pieces of comb, one on each side of the frame of brood, which contained a small quantity of honey and some eggs. Can you give any reason why they left in this ungrateful manner? The frame of brood which I gave them I took from a hive that had swarmed a few days before, and I thought perhaps the unsealed larvæ were too large.—L. B. POST.

[Your bees had picked out their hollow tree, and got it cleaned out and already fixed up for housekeeping before they swarmed at all. Under such circumstances you could not well induce them to give up their project, especially if you let them remain on the old stand, and this is one very good argument in favor of hiving at some little distance from where the parent colony stood. Where they pick out the location before swarming, they are pretty sure to move to it, sooner or later.—*Gleanings.*]

For the Sixteenth consecutive year Chicago opened up its great Inter-State Industrial Exposition, replete with the best products of science, industry and art, on Wednesday, Sept. 5, and will close Saturday, Oct. 20. The immense structure is now laden to its fullest capacity with the finest and most magnificent exhibits ever displayed; from almost every quarter of the civilized world, illustrating as it does every avenue of human industry in its most complete form, it is almost a necessity that they who would keep abreast of our most advanced ideas in both industry, science and art, should not fail to visit this great Exposition. Every railroad and transportation line running into the city have made reduced rates, and there is every indication that a much larger attendance will follow than any year that has preceded.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club. Sample copies will be sent free upon application.

Golden-Rod.

Written for Our Little Men and Women

BY CLARA DOTY BATES.

An idle Breeze strayed up and down
The rusty fields and meadows brown,
Sighing a grievous sigh, "Ah, me!
Where can the summer blossoms be?"
When suddenly a glorious face
Shone on him from a weedy space,
And with an airy, plumy nod,
"Good afternoon!" said Golden-Rod.

The Breeze received her courtesy?
And then came hurrying home to me,
And eagerly this story told:
"I've seen a lady dressed in gold,
So shining that the very light
That touches her is doubly bright—
She nodded, too, a royal nod."
"Why, that," I said, "is Golden-Rod."

"Come out and see her where she stands,
Gold on her head and in her hands,"
He cried; and I without delay
Went after where he led the way;
And there she stood, all light, all grace,
Illumining that weedy place,
And to us both, with airy nod,
"Good afternoon!" said Golden-Rod.

QUERIES AND REPLIES.

Tiering-Up when Working for Extracted Honey.

Written for the American Bee Journal

Query 576.—When extracted honey is desired, is it not preferable to tier up, that is, to use extra stories above instead of taking from the brood-chamber?—N.

Yes.—DADANT & SON.

Certainly.—MRS. L. HARRISON.

Yes.—H. D. CUTTING.

Certainly.—R. L. TAYLOR.

Yes.—J. M. HAMBAUGH.

I think so, decidedly.—A. J. COOK.

Yes.—G. M. DOOLITTLE.

Yes, every time.—EUGENE SECOR.

In most of the cases it is.—J. P. H. BROWN.

Yes, every time.—C. H. DIBBERN.

Opinions differ. I think that I should prefer tiering.—C. C. MILLER.

Yes, sir. It is better if those extra stories above are half-depth. I have used both full and half depth supers for more than fifteen years.—JAMES HEDDON.

If the tiering-up plan is followed, and plenty of room given, it will seldom be necessary to extract from the brood-chamber.—A. B. MASON.

I consider that the best way to gather extracted honey is by tiering-up. I am of this opinion both from experience and observation.—J. E. POND.

Extract from an upper story, as a rule. Sometimes the brood-chamber has too much honey. In that case it should be extracted, or full combs exchanged for empty ones.—M. MAHIN.

Ideal extracted honey can only be had from supers where there can be no suspicion of the juices of brood, and the taste of pollen.—J. M. SHUCK.

Most assuredly it is. To take honey from the brood-nest is a slip-shod, slouchy way of taking surplus. It is but a little better than the old fogy plan of "robbing bees."—G. W. DEMAREE.

I use a two-story hive, and extract as often as I find the honey about two-thirds capped over. It is necessary to occasionally extract from the brood-chamber, so as not to allow the queen to be over-crowded, etc.—P. L. VIALLON

While it is sometimes necessary to extract from the brood-combs, in order to give the queen room to lay, still with proper management and the judicious tiering-up of supers, it will not generally become a necessity. Our *ideal* extracted honey is *always* taken from the virgin comb in the supers—not from the breeding apartment.—THE EDITOR.

Number of Frames Used when Tiering-Up.

Written for the American Bee Journal

Query 577.—1. Are not 12 or 13 frames too many for the brood-chamber, when tiering up? 2. How many would you use below? 3. Would you use the same number above as below, when tiering up?—New York.

1. More than are necessary. 2. Eight. 3. One less.—R. L. TAYLOR.

1. No. 2. Eight Langstroth frames. 3. Yes.—MRS. L. HARRISON.

1 and 2. Nine Langstroth frames are sufficient. 3. I would.—J. P H. BROWN.

I use nine Gallup frames in the brood-chamber when working for extracted honey.—G. M. DOOLITTLE.

1. Yes. 2. Ten. 3. Yes.—J. M. HAMBAUGH.

1 and 2. That depends upon the size of the frames. 3. Yes.—C. H. DIBBERN.

1. Yes. 2. Seven to eight. 3. Use 8 to 10 above.—H. D. CUTTING.

1. Yes, unless very small. 2. I am not fully settled on that point.—C. C. MILLER.

1. That depends upon the size of the frame. Ten Langstroth frames are not too many, unless the surplus is all wanted in the supers. 3. If for extracting, yes.—A. B. MASON.

1. No, not of the Langstroth size or smaller. 2. We use half-depth frames above, or rather 6 inches deep.—DADANT & SON.

1. Much will depend upon the size of the frame. Ten Langstroth frames or equivalent are, in my opinion, about right, both in the brood-chamber and in the surplus apartments.—J. E. POND.

You do not give the name of your frame. If Langstroth, I would not use more than ten below, and the same size of hive above with one frame less.—EUGENE SECOR.

1. Ten frames are enough. 2. Ten, if for extracted honey; 8 if for comb honey. 3. I use 10 frames in the brood-chamber and 9 above.—P. L. VIALLON.

That depends upon the size of the frames. I have used 12 Gallup frames with success. This leaves plenty in the lower hive for winter.—A. J. COOK.

1. Much depends upon the size of the frames, and something upon the locality and the season. I use in that way from 8 to 11 frames of nearly the Gallup pattern. 3. Yes.—M. MAHIN.

I do not understand the question. If the querist desires comb honey, 12 to 13 Langstroth frames are too many. If he desires extracted honey, 12 to 13 frames may not be too many.—J. M. SHUCK.

1. It depends upon the size of the frames used. 2. In my locality I use 10 Langstroth frames in the brood-chamber. 3. When I use full-depth supers above, I use but 9 frames. In fact, I use but 9 frames in the surplus apartment whether I am using full-depth or half-depth cases. Placing the frames a little wider apart in the surplus cases makes the sealed combs full and plump, and they uncap nicely.—G. W. DEMAREE.

Yes, too many for any brood-chamber, provided they are the size of the Langstroth frame. Never use more than 10 Langstroth frames' capacity in the brood-chamber, and never more than 7 or 8, unless you are practicing contraction at the proper season of the year. The rest of your query is answered in my reply to Query 576.—JAMES HEDDON.

1. That largely depends upon the size of the frames used. 2. I prefer the 10-frame Langstroth hive for all purposes, but would contract the brood-chamber by reducing the number of frames when working for surplus honey. 3. In order to obtain all the surplus in the supers, I should use less frames below, graded by the circumstances.—THE EDITOR.

Query 575.—The answer to this query, by Mr. J. M. Shuck, in last week's BEE JOURNAL, should have read as follows:

I believe it has been established that there is formic acid in honey. I incline to the *belief* that the acid *found* in the honey is developed and incorporated with the honey in the honey-stomach, and tends to preserve the nectar till it ripens, rather than to preserve it after it has been evaporated and sealed.—J. M. SHUCK.

The two italic words in the above answer, by an oversight, were printed incorrectly, and the error was not discovered until after the "forms" were printed.

Convention Notices.

☞ The next meeting of the Union Bee-Keepers' Association will be held at Clayton, Ills., on Thursday and Friday, October 11 and 12, 1888, in the Town Hall at 10:30 a.m. The Park Hotel will charge $1.00 per day; the restaurants 25 cts. per meal. We expect Messrs. Dadant, Hambaugh, Camm and other prominent bee-keepers to be present.

S. N. BLACK, *Pres.*

☞ The Ohio State Bee-Keepers' Association will hold its 6th annual meeting in joint convention with the North American Bee-Keepers' Society at Columbus, O., on Oct. 3, 4 and 5, 1888. A special business session of the Ohio State Bee-Keepers' Association will be held on Oct. 4, to elect officers for the coming year, and for the transaction of other business. This business meeting will not interfere with the regular programme of the National convention of the same day.

FRANK A. EATON, *Sec.*

CORRESPONDENCE.

PLEASANTRIES.

Time of Buckwheat and White Clover Bloom.

Written for the American Bee Journal

BY DR. C. C. MILLER.

In response to the request of the editor on page 563, I reply that in this locality, and I think it is the general rule in all localities, the nectar disappears from buckwheat bloom by the middle of the day, so that whereas there is no trouble from robbing in the forenoon when buckwheat is yielding, care must be taken to avoid everything like exposure of combs or honey in the afternoon. Something, however, depends upon the weather, for if the morning is cold or rainy, the forenoon of buckwheat bloom may be extended into the afternoon.

It is well to be somewhat familiar with the habits of flowers as to blooming, although buckwheat is the most notable exception to the general rule that flowers yield nectar all day long.

White Clover Blooming and Not Yielding Nectar.

Considerable apprehension was felt in this locality about the crop of white clover this summer. The summer of 1887 was so very dry that white clover seemed to be burnt up, root and branch, and the question was whether the summer of 1888 would see any white clover, and if some did come from seed, whether it would be forward enough to bloom. I never watched more closely in the spring for the first appearance of growth. Contrary to my expectation, I think that I never saw so much white clover starting. I cannot say, although I should like to know, whether it came from the roots of last year or from the seeds.

Then I watched to see whether it would bloom. Soon the blossom buds appeared in profusion, and my fears for the season subsided. I awaited with confidence the gathering of a bountiful harvest, for I feel sure I never before saw the ground more white with clover bloom, and I *think* that I never saw any thing to equal it. But the flood of nectar seemed slow about coming, and after the time for it was all over, I was obliged to confess that I was a "false prophet," and that very little honey was gathered from white clover.

Now what was the trouble? Is it true that white clover, as some have stated, produces no nectar the first summer it comes from seed? It certainly looked a little that way this year, providing the clover all came from seed this spring or last fall; and yet I can hardly believe there is any difference between a blossom on a plant a few weeks old, and one on a plant a year older. If the blossom needs nectar to call insects to fertilize it, will not the young plant produce it just as well as the old one? I really would like some one who can speak with authority, to tell us more about this plant and its habits.

That Honeyed-Man.

This man was mentioned on page 579, and I agree with the editor that it was nothing strange that the man received no stings from the bees alighting upon the honey daubed on him. But I suspect there is very little foundation—very likely no foundation whatever—for the whole story. Let us look at it.

A man daubed himself with honey, 800 bees that were swarming in the woods alighted on him and stayed there until he transported them home. In the first place, when bees are swarming, they are very intent upon the one thing—swarming. I very much doubt if you could get 800, or 80 bees, of a swarming colony to alight upon a man daubed with honey for the sake of getting the honey. They are not just then in the honey-gathering business. But suppose you could get them to depart from their usual habit, and forsaking the cluster or the swarm in the air, settle upon the man, how long would they stay there? Just long enough to load up with honey and then off they would fly, and no bee would come back for a second load to the man unless he stood still at the spot where the bee left him.

You may bid defiance to the worst robbers by simply keeping on the move anything you want to protect from them. So I suspect that the whole thing originated in the brain of some one anxious to get up a sensational item for the newpapers. Sensational items are in demand, and we can expect nothing different so long as the *truth* is not more highly valued than sensations.

The Wiley Pleasantry.

This "pleasantry" owed its popularity and its successful run to the fact that it was sensational. It is not that newspapers or reporters so much prefer the false to the true. A true sensation is preferable to one that is false, but there is a lamentable absence of care as to whether truth or falsehood is promulgated, providing only that it is sensational. Get up a contradiction of the Wiley statement that shall be equally sensational, and it will promptly go the rounds. But no matter how strong may be Prof. Wiley's retraction, it will not be likely to find currency anywhere except in the columns of those papers specially devoted to the interests of bee-keepers. The retraction may be very true, but it is not sensational.

The holding the breath to prevent stinging goes the rounds for the same reason, and the bee-periodicals are not altogether guiltless, because at least two of them have published it with no word as to its truth or falsity. We hardly ought to blame other papers for neglecting to inquire closely into the truth of every item admitted to their columns, if the same thing is done right in our own ranks. A notable instance of this is in the following:

The Sting-Trowel Theory.

That bees ever use their stings to work wax, I believe is just as untrue as that artificial comb honey is made, and yet this error had its origin entirely among bee-keepers. It is true that it is not like the Wiley affair in mischievous tendency, and I do not suppose Mr. Clarke would have made the statement he did, if he had supposed mischief would arise from it; still he was far from warranted in putting forth as an ascertained fact, that which was a mere play of his imagination. I do not believe he ever had any proof that his fancy was a fact, and I confess I would very much like to see Mr. Clarke himself the first one to give the "sting-trowel" its quietus. I would like this for the sake of the truth, and also for the sake of Mr. Clarke as well.

Marengo, Ills.

FALL FLOWERS.

The Autumn Honey-Flow in the Middle States.

Written for the Grange Bulletin

BY H. B. GEER.

After the heat of the summer has passed, and the first fall rains begin, then spring into life and beauty the autumn flowers that are usually loaded with delicious nectar—resorts of pleasure and profit for the millions of honey-bees, that, after some weeks of idleness and inactivity, are only too glad to again return to the fields and their duties.

During the spring and early part of last summer the flowers, such as struggled into existence despite the drouth—were nearly or entirely fruitless, and the sources of honey very limited indeed. But after the rain had come again, it brought out the autumn flowers here in Tennessee, and also, as I learn, in Missouri, and the honey-flow during the month of September was better and more of it than during all the previous months of the year.

Chief among the fall honey-plants of Tennessee, is the golden-rod. Here it blooms in great profusion, and its bright golden plumes may be seen nodding and waving in nearly every field and meadow—especially in the waste places or fallow land, and in the fence corners. It yields honey of a rich yellow color which has a very pleasant flavor. In fact I think it the finest honey that our bees can obtain from any source in the fall of the year.

In Missouri, where the writer is interested in apiculture, the asters are our chief reliance for fall houey. There they bloom in great profusion from about the first of September until frost. There are a great many varieties of asters, and they all yield a fair grade of honey, which every bee-keeper is glad to receive, after the spring and summer supply has proven a failure, as was the case last season.

Honey partakes of the nature of the flowers from which it is gathered, more perhaps than one would suppose. For

instance, in the spring of the year when the flowers are fragrant and loaded with perfume, the nectar gathered from them is likewise fragrant and delightful, and seems to emit the sweetness of the fields, and the wild flowers themselves. The delicate fragrance of the white clover bloom is well-known, and, as if in keeping with its delicate nature, the honey it yields surpasses all others in flavor and pleasurable taste.

On the other hand, the honey from the fall flowers, while equally sweet and pure, is devoid of the fragrance and pleasant smell that the early season honey possesses. Likewise the autumn flowers seldom emit a pleasant perfume, although they rival in beauty their kindred of the springtime.

CANADA.

Report of the Haldimand, Ont., Convention.

Written for the American Bee Journal
BY E. C. CAMPBELL, *Sec.*

A meeting of the Haldimand Bee-Keepers' Association was held at Fisherville, Ont., on Saturday, Sept. 1, 1888. The minutes of the previous meeting were read and confirmed.

How and What to Feed Bees.

The President said that granulated sugar should be fed, as it was safer than to risk feeding cheap sugar. He made a thick syrup by putting the granulated sugar into boiling water, and stirriug it frequently to keep it from burning. He exhibited a Canadian feeder, showing how it worked, and urged early feeding, so that the bees could cap their stores before cold weather. It was also necessary to feed in the evening, so as to avoid robbing.

Mr. W. Kindree's plan was the same as the President's, only that he boiled the sugar a little more than Mr. Armstrong. He thought that by doing so the syrup was not so apt to granulate.

Mr. Mehlenbacher described his plan of feeding, which was by tipping the hive up in front, and pouring the syrup behind the division-board.

Mr. Overholt used a similar feeder to the Canadian, and found it ahead of any other.

Mr. Best had always used honey, but this year he would have to try sugar, as he had no honey. He had wintered a colony on 15 pounds of honey, and it had wintered all right.

Mr. Atkinson made syrup the same as described by Mr. Armstrong, and used inverted glass jars as feeders.

How to Unite Colonies of Bees.

The President gave his plan of uniting colonies, which was to gradually move the colonies to be united, towards each other until they were close together, and then spreading the frames apart, and putting in frames alternately; he then gives the bees a good smoking, and the work is done.

Thirteen members reported 252 colonies, spring count, and 375 colonies, fall count; from which it is seen that the increase has been very small, besides no surplus honey taken; and what is worse, the bees have not stores enough to winter on, and will have to be fed.

The next meeting of the association will be held at Cayuga, at the call of the President.

HONEY-JUMBLES

Of the North American Convention of 1887.

Written for the American Bee Journal
BY A COUNTRY BEE.

"All N. A. B. K's (wrote H., the recorder) were
Summoned to appear before the President Miller,
Each bringing one dollar in paper or silver;
And at the Commercial Hotel please register,
In Chicago, Ills., the 16th of November."

A No. 1 *Root* responded with his "A B C's;"
Armstrong came on with his hive and T-supers;
And *Aspinwall* wrote that if we'd organize,
All delegates should receive that "Magazine" of his—
"Life ne'er exulted in so rich a prize."

Bees (*Genus Homo*) were *Baldridge, Baldwin, Barber, Boardman, Miss Bennett, T. F. Bingham*, the smoker, *Betsinger, T. S. and Joshua Bull* (not Johnny), *Bedell*, and *Burnett*, who is not a *Bur*)*master*, Although he well knows how to handle the honey.

"We may live without friends, we may live without hooks"—
But this Society "cannot live without *A. J. Cook*."
Compton, of Glenwood, *Crocker, Cumins* and *Comstock*,
Were very modest, and did not give us much talk,
But the deficiency was made up by *Mr. Wilcox*.

"While a-gathering of bee-bread for their living,"
Hubbard, whose ancestor "went to the cupboard," and
Found *Hopkins*, of O. (kin of Hop-'o-my-thumb).
Speaking of H's, *Lemmer* see; *Dr. Haskin, Hutchinson,*
Hilton and *Heddon*—the "banner" goes to Michigan.

Lyman, Forncrook, and *Thornton*, no doubt ought to be,
"I the man in the moon, this thornbush, my thornbush."
D. G. and *G. W. Webster* (decendants of Daniel and Noah);
Hear our *Betsinger*, "Oh, velvet bee you're a dusty fellow,
You've powdered your legs with gold," all yellow.

"O *Woodman* spare that (*Dahl* linden honey) tree,"
Cried *Funk, Stalninger*, "'mid the trees, where humming-bees
Extract the nectar from the bright flowers.
Here the *Redmond*, who once chased *Reynolds*, the fox,
Now extracts the "extracted honey" with the extractor.

Beside our President, were *B. J.* and *M. M. Miller, Gilson* who sent to fetch a pail of (*Mc*) *Whorter;*
That reminds us of that young "Tribune" reporter,
Who thought our "countrified look peculiar;"
If he'd seen one buzzing drone, he'd not have been so jocular.

Mrs. Searles—"hark to the music, the drum and the fife."
A *Taylor, Cumins, Davenport* with his wife,
Jones, Esher, Murphy, and *Gander. Dethloff*—my life,
Neimetz! I'm *Fullmer* than *Hawks*, when chickens are rife.
Another room for exhibits, would lessen the strife.

I hear the bees swarming, and while watching for the queen,
Oh, *Gould*, I see the one who sang, "Keep our *Graves, Green*."
"I *Lovett*, (*Sweet, Hart*), or *Stanton*, in the *Parks*,
With *Wilson, Thompson, Robertson*, or even the *Holtermann*.

When the *Oatman* was *Stow* (ed) in the hopper,
With *Newman, Secor*, and *McLain* the Professor,
By the hardest of *Davis* work our *Strong Miller*,
Turned us out a grist of very *Good* flower.
"And here by thee, will hum the bee, forever and forever."

The flower was left with the *Cook*, by *Chapman;*
Who turned it over to the ladies and gentlemen.
Some *Marvin* that the flavor was equal to linden—
"Excuse me, but will our *Good* friend, *Dr. Mason*,
Be so kind as to see to the ventilation?"

Our hearts went out to Father Langstroth,
With the hope that his remaining days on earth,
May be filled with sweetness around his hearth,
And the conscious thought of the good he has wrought,
For the bee-keeping people, bring joy to his heart.

Thanks were tendered to Mr. Thomas W. Cowan,
Who, being such an able "microscopian,"
Gave pleasure and profit to all who met him;
While regretting his absence, at *Prof. Cook's* suggestion,
He was made honorary member of this Convention.

Thanks to *Thomas G. Newman* again and again,
For his excellent arrangements with the hotel-man,
For his thoughtful good-will shown on every hand;
To mention this Society, is to think of his name.
"He has served thee as none would," still sounds the refrain.

For President, the genial *Dr. A. B. Mason*,
For Secretary, the efficient *W. Z. Hutchinson*,
For Treasurer, *Mrs. Harrison*, who uses no deception,
They were *Secor* (ed) officers at the election,
Without a *Wakeman's* or *Woodman's* dissension.

"We may learn of the bee, the wise man's lore,
The hand of the diligent gathereth store."
At Columbus, Ohio, "If this life be not o'er,"
On the 3rd of October, "May we meet once more."
Till then, success to you all, *Au revoir*.

MAPLE TREES.

Insect Enemies Mowing Them Down—Plant Lindens.

From the Detroit, Mich., Tribune
SEPTEMBER 3, 1888.

Dr. W. C. Stevens of Fourteenth avenue has devoted considerable attention to the destructive insects from whose ravages the maple trees are suffering so severely. He expresses the belief that there is not one sound maple tree in a hundred under five years old in Detroit. On some whole streets he has been unable to find a single tree unaffected by the pest. The same state of affairs seems to prevail among the shade trees throughout the country east of Detroit.

Dr. Stevens recently wrote to Prof. Cook of the Agricultural college relative to the matter. The professor in his reply says that the same destruction of maples in Detroit referred to by the Doctor is noticeable in Lansing and in every other city in the state. He pronounces a specimen insect, which Dr. Stevens sent him, the grub of a common maple tree borer, *Plagionotus speciosus*, which is very harmful to trees all over Michigan. They attack large, thrifty trees and have destroyed many maples in Jackson, Lansing and other places. The beetle, which appears in July and August, is a large, handsome longicorn, black in color and striped with a rich yellow.

The pupa case which the Doctor sent is pronounced by the professor that of a caterpillar, *Ægeria acerni*. This beautiful moth lays her eggs in July, and the caterpillars feed on the inner bark for one year. It is black, striped with yellow and orange. This insect, Prof. Cook says, is also doing much to destroy the maples.

More harmful than either of these varieties is the big-headed apple tree borer, which is a very serious enemy of the maples, especially young or newly transplanted trees. This beetle attacks trees whose vigor has been checked. Thus it is that it is so destructive to trees recently transplanted. Prof. Cook

recommends that the trunks of trees be washed early in June and July with a strong solution of soap, to which one-tenth of its volume of crude carbolic acid has been added, especially for two or three years after setting. Still better is good care—spading about the trees and adding a generous mulch every spring for five or six years after planting.

"Why do we plant so many maples?" is a conundrum propounded by the professor in his reply. He estimates that throughout the state ten maples are planted to one of any other species. He refers to the elm as a beautiful tree, and one, which, in this locality, is yet free from serious attack. Still the elm-leaf beetle in the East is moving West rapidly, and the canker worm is a fatal enemy of the tree. The basswood or linden is a handsome tree, a more vigorous grower than either maple or elm, and is comparatively free from insect enemies. With the same care five, and the professor guesses ten, lindens survive to one maple. It is also an admirable honey-tree. and so has much economic value.

"If we must plant maples," concludes the professor, "give them the best of care and wash them with the solution mentioned each June and July for some years after planting, but it is far better to plant the beautiful linden, which with half a chance, if stock is kept away, will live, thrive and mature."

STINGING BEES.

Something in the Honey Causes Bees to Sting.

Written for the American Bee Journal

BY SOLOMON W. JEWETT.

No pure honey can be found in America in any quantity or in any condition, that has not gone through the chemical laboratory of the honey-bee, or some other insect that stores this peculiar sweet, which has properties as food and medicinal, that cannot be found outside of its deposits in the comb by some insect. Most people have yet to learn this, and many other simple things in nature not yet learned.

There are other matters relating to bees that I find many apiarists have not discovered, namely, in the working of the bees among some flowers, they become more irritable, and more liable to use their simple weapons of warfare, than they do when gathering sweets, and the pollen, or anything which they are seeking to convey to their rural home. Some wild flowers, and the buckwheat flower, contain more poison, and is more virulent than clover, or from the willow, etc.

When working on the flower of buckwheat, sometimes they are so overcharged with poison, that they are quite inclined to sting man and animals, seemingly to relieve themselves of this surfeit; and we find it in the honey sometimes, by partaking of a little fresh honey (gathered and stored by these arch chemists, as deposited in the comb), which will give griping pains; and this poison is in less quantities in the seed. By continuing along for sometime, daily partaking of buckwheat cakes, it shows the effects on the cuticle or skin of the body, and even the scalp may feel this dry roughness, and an itching sensation when nothing of the kind had been felt before.

We have some people who keep fowls, that speak in favor of buckwheat to make hens lay; but that is a mistake; they may lay in their seasons because it is their nature, but if one will only observe how dry and dead their feathers become, and stand out as though they were suffering pain, they might desist from putting before these birds buckwheat as food.

Simple Remedy for Bee-Stings.

There is a simple remedy at hand, for those afflicted with pain from eating too freely of this honey gathered from buckwheat. It is simply to take a swallow of the weak solution of soda and water, and it is one among the best remedies to apply wherever the bee, the wasp, or the snake has inserted its venom through the sting into man or animal flesh.

But there is another remedy that will draw out poison from the snake bite. Kill and open the body of a hen or bird, and lay it on the stung place; it will extract the poison, reduce the swelling, and remove the pain. At the usual swarming season, should one have the solution of common baking soda, or saleratus, on hand, it will destroy the effects of the bee-sting at once, if applied.

Rutland, Vt.

MARKETING.

Disposing of the Honey Crop to Commission Men, etc.

Written for the American Bee Journal

BY REV. J. D. GEHRING.

It is easier to learn the bee-business so as to know how to produce nice comb honey, than it is to learn how to dispose of it to the best advantage.

Last year I had no trouble to dispose of all I had at 20 cents a pound. This year I cannot sell a pound to the same grocerymen in Kansas City. When I called on them the other day, I asked, "Can I sell you some nice, white clover honey?" One answered: "No, sir! We have more honey now than we can sell. Nobody wants honey." Another, "Is it nice and white? Sections well filled out and unbroken?" To which I could promptly reply in the affirmative.

"How much do you want for it?" Eighteen cents, net.

"Don't want it!"

And 18 cents a pound is 2 cents less than the quoted market price! These same men are retailing it at 25 cents. Something is wrong somewhere. What is it?

We have two firms in Kansas City who make comb honey a specialty. They now quote 18 and 20 cents for first-class comb honey. I presume they sell to retailers at those prices. I do not know how they sell it in large lots; but I know that they have a "buying price" and a "selling price," for when I ask, "What is the price of the best comb honey?" they will cast upon me a look peculiar to a Kansas City commission man, and answer my question "Yankee fashion," thus: "Do you want to buy or sell?"

I have a few hundred pounds to sell at 18 cents.

"Don't want it! Piles of it on hand now."

Who is glutting (?) the Kansas City market *this year*. I wonder? Some "big bee-men in the East," I am told!

What a queer state of affairs! The bee-papers inform the anxious, tired and disgusted *small* bee-man that there is a very light honey crop in the country. He can say "amen" to the statement, for he is *one* of them. But New York bee-keepers send honey by the carload (?) all the way to our own market; and our commission men cannot be convinced that honey is scarce.

"If you want to consign your honey, we'll take it and sell it for you. But we can't guarantee any particular price, as the demand is light."

"You see?" No, some bee-keepers don't "see" that they are helping a syndicate of commission sharpers to control the honey market, and that they are making it easy for those men to treat us poor, small struggling fellows with haughty contempt.

I tell you, Mr. Editor, we ought not to stand such an outrage! I am only a small "Dutchman," and have no great amount of "stock" invested in bees and honey; but, sir, I am big with indignation! Even a Dutchman will find out a thing or two when he is exasperated. Let me tell you what I mean:

Not many years ago a man, whom I know quite well, had some honey to sell. He was a "poor preacher," and needed money, so he sent it to a commission man who said he could probably (?) get 17 cents for it. But when the preacher collected for his honey, he got only 15 cents minus the "commission"—because "we couldn't get 17 cents."

Well, one day, sometime after the transaction with the commission man, the preacher saw some honey in a grocery store which he thought looked exactly like his 1½-pound sections. He asked the price, and found they were retailing it at 25 cents a pound. He asked where they got it, and was told at —— commission house. It was his honey, no doubt. But as it was a delicate question to ask the merchant what price he paid for the honey, this preacher sent a man (who didn't want to buy honey) to inquire the price, and was told that, as that was "particularly nice honey," they had to ask 18 cents (!) for it.

That Dutchman has ever since been a little careful about accepting the gift of a "stencil plate," ready for use, from a commission house.

Hadn't we better form a "honey trust?"

Parkville, Mo.

[We *trust* that the last sentence is a joke, Bro. Gehring. The word itself is distasteful to us. We have trusted so

much in our business career, that we are now mourning the loss of many thousands of dollars *trusted!* Then about "honey trusts," it was only a few months ago that the papers would have it that the New York bee-keepers were to hold a meeting to form a "honey trust," which was to accomplish *wonders!* But there was no truth in it. Two years ago a Honey Producers' Association was talked of when the honey crop was of fair proportions, and if such a plan as then presented could be carried out, it would be productive of much good. Such an association would practically put an end to the swindling done by *dishonorable* commission men (for there are such, though there are also many honorable ones) who sell at one price, and report to producers at another and lower one. There are *sharpers* and swindlers in all occupations, and honey commission men are no exception to the rule.—ED.]

NEW YORK.

An Average Honey Crop of 30 lbs. per Colony.

Written for the American Bee Journal
BY H. J. ROGERS.

The season for surplus has closed here, and the result is not very encouraging; however, we have some honey, and are thankful.

My 80 colonies were put into winter quarters last fall with plenty of bees and honey, and came out in the spring without any loss; but five colonies were rather weak, and I lost 3 out of the 5 by spring dwindling.

The cold, backward spring kept the brood from spreading very fast, so that when apple blossoms appeared, most colonies were not very strong. For the first season here since I have kept bees, apple blossoms yielded no nectar, and I soon found some of my colonies on the verge of starvation; especially those that I had transferred. I fed all the honey I had on hand, and also considerable sugar syrup.

About June 1 raspberries opened, and about four-fifths of my colonies commenced work in the sections, and I secured about 2,000 lbs. of very nice honey, all in the comb. At this time we were getting copious rains, and it looked as if clover would be a fine harvest, but it yielded very little, scarcely more than last season.

This section is always favored with lots of buckwheat, and when I found that the basswood was a total failure, I hoped we would get a "big run" from buckwheat. This, too, has failed on account of a frost, which has ended all work in the sections for this season.

It is well known that bees do not work on buckwheat except a few hours in the early part of the day—sometimes they cease work at 11 o'clock, but generally as soon as 1 o'clock. I think I have never seen a bee work as late as 3 p. m. on buckwheat.

I have not had any increase this season, mainly, I think, on account of the large, roomy hives which I use. They take 10 frames of the Langstroth size, and hold 40 sections 4¼ x 4¼ x 1 15-16, in each super. I thiuk they are as good non-swarming hives as there are in existence, not excepting the "Cotton Hive."

If my bees had swarmed, I should not have a pound of surplus: as it is, I have 30 lbs. per coiony. We will now commence to prophesy concerning the crop of 1889, which *surely* ought to be very large.

Stannard's Cor., N. Y., Sept. 3, 1888.

THE FAIRS.

Will it Pay to Exhibit Bees and Honey?

Written for Gleanings in Bee-Culture
BY DR. A. B. MASON.

Agricultural fairs set in motion the best elements of farm life, and stir up the ambition of those interested, and all *are* interested in the success of the undertaking. It is an advertisement for the community and for persons interested; and if the display is good it gives a good reputation to the exhibitor.

"Like other productive industries, bee-keeping is not exempt from uncertainties as to results, and few things bring to the bee-keeper so many pleasant and profitable things as does a display of bees, honey, and apiarian appliances," at the annual and other State, county, and district fairs and expositions. Wherever such an exhibit is made it is a nucleus around which bee-keepers gather, and in a quiet, pleasant, and profitable way exchange ideas and discuss matters "new and old." An incident at the Tri-State Fair held here two years ago made a more lasting impression on me than hours of ordinary talking or pages of reading-matter might have done. An elderly farmer, some would have called him an "old codger," wanted to bny some bees of me. We talked over prices, etc., and I thought a bargain was about made, when he asked me if I used the extractor. When I told him I did, it would have done any melancholy dyspeptic good to see the expression of disgust that spread over his face as he said, "I don't want any of *your* bees." Strange as it may seem, I had to laugh in spite of all my efforts to the contrary, and I saw that this oracle knew that the extractor is responsible for the great winter mortality among bees, for he afterwards told me so. I believe he tried to purchase bees of every bee-keeper there, and with the same result.

If there is a business that requires a man who can express in his face, at one and the same time, disgust, contempt, and anywhere from ten to ten thousand other kinds of expressions, I would most earnestly recommend that gentleman as the best-qualified man to run that business that I ever met.

These exhibits aid us in our efforts to popularize the use of honey as food and medicine. They will also help to raise the standard of excellence, both quality and attractiveness of honey put upon the market. New ideas will be disseminated, new methods will be learned, and old ones discarded.

Bees and honey are always great attractions at fairs; and to hear the "fat" expressions and quaint sayings of "smart" country people and city "dudenes" is enough to add years of happy life to the average age of those who enjoy such things. To listen to fond papas and doting mammas as they explain to their children, who are all eyes and ears at such times, the mysteries of the hive, and how the bees "make honey" while they are shut in the hive at the fair, and how a honey-extractor works either as a washing-machine, an ice-cream freezer, or a churn, will cause a change in the facial expression of such stoics as Mr. Hutchinson and a score or more others whom I might name, but space forbids; and such matter-of-fact men as our friend A. I Root gather new enthusiasm and energy from such displays of sweetness, and the consequent contact with wise and *other*wise people.

The first year I lived here, the premium offered by the Tri-State Fair was five dollars "for the best show of honey." I found the "show" set away on a high shelf among other things, and where it was seen by but few. It consisted of a rough box, holding about twenty pounds of comb honey, with glass in one end of the box. I spoke to officers of the society about the matter, and the result was the offering of over $100 the next year as premiums, and the next year $208. For six years the Bee and Honey Department has been a "fixture," and, like other departments, has a superintendent, etc.; and last fall it was said to be "the most attractive exhibit on the grounds." The exhibit in 1882 was small compared to what it has since become, and was described in the AMERICAN BEE JOURNAL by the editor, who assisted in awarding the premiums, as a "grand success. The small corner set apart for the bee and honey show was so crammed all the time that it was with great difficulty any one could get through the crowd, and utterly impossible for many who desired to examine the exhibits to even get within a stone's throw of them."

I want to say a few kind words about friend T. G. Newman. When we first started out to make an exhibition of honey, etc., at the Tri-State Fair in 1882 and also in 1883, he kindly consented to help us, and came from Chicago to Toledo and spent three days each year, without "fee or reward," in aiding in judging, and starting us off in good shape. A. I. Root and C. F. Muth and others helped us in 1883, and we have tried each year to improve on the previous one.

The exhibit at the St. Joseph, Mo., fair has become one of its most attractive features; and for five or six years past the Michigan bee-keepers have made a large and attractive display at

their State Fair, and have a separate building for their exhibit, and the premium-list was gradually worked up by Mr. Cutting, Prof. Cook, and others, from next to nothing to over $300. At Toronto, Canada, have been made some of the largest (if not *the* largest) and most attractive exhibitions of honey and apiarian appliances ever made on this continent.

I believe honey should be made the main attraction. A display of bees and queens is always "in order," and calls forth more quaint and original expressions from the crowd of sight-seers than even the extractor does. Many an old "residenter" has taken pains to put on the second pair of eyes to see "the king-bee who bosses all the other bees, and tells them what to do," and then, after being told it is a queen, and the mother of the bees, hurries off to hunt up some friend or member of the family to show them "the mother of all the bees."

Supplies are viewed with curiosity; but honey, that "sweetest of sweets, excepting the lasses that we all love to greet," is the great attraction, and creates a desire to *taste* that which to many is so irresistible that a purchase has to be made before the visitor is satisfied, and then, when leaving, frequently turns and casts longing glances at the tempting display of luscious sweetness.

The skill displayed in making honey exhibits in some of the countries of Europe is so great, and the display so attractive, that it is not a rare thing to have them visited by common people, as well as by kings and queens; and it is largely the fault of the bee-keepers themselves if like attractive and instructive displays are not made at the different fairs throughout this country; and I have yet to learn that the managers of any fair have regretted having done what they could to call forth an exhibit of honey, but all have been surprised at the beauty and attractiveness of a well-prepared display.

The Stark Co., O., Agricultual Society, at the solicitation of the Stark Co. Bee-Keeper's Soceity, last year appropriated $100, to be given, as premiums for bees and honey, etc. and $150 for the erection of a building for the display of things pertaining to the apiary.

If all county and State agricultural societies cannot be induced to give fair premiums for the products of the apiary, without doubt enough can be secured to more than pay expenses; but some one or more bee-keepers must look after the matter, and be sure that it is attended to. It will *not* take care of itself.

The question with us all very properly arises, "Does it pay to be to all this expense and trouble?" The same question very naturally arises, also, in regard to any kind of an exhibit at fairs, and each will have to answer the question for himself.

On page 221 of *Gleanings* for 1887, J. H. Martin puts this matter before us very nicely. He says, "Does it *pay* to spend time and money to advertise the honey business? If we look around us, we see every trade making strenuous efforts to get ahead. Take up the most obscure county paper, and every trade is represented in its columns. Our most successful merchants are the ones who 'catch on' to every advertising novelty to be used in the extension of their business. Our fairs are the red-hot centers of attraction and advertising, through all lines of business, with the exception, perhaps, of bee-keeping.

"Probably the hardest thing for a spirited bee-keeper to bear, at the present time, is the general belief that bee-keeping is a small business, and that any ninny who knows just enough to chew gum, can successfully produce honey; and bee-keepers, as a rule, are following a course of action to confirm people in that belief; for if a business is not worth a little advertising effort, it is not much of a business."

It seems to me that a few bee-keepers in each county where honey is produced can make it *pay* to be to the necessary expense and trouble of making a nice and attractive exhibit. To be sure, it has to be "mixed with taste and brains," and that is just what every successful bee-keeper, or his wife, has a supply of. See that the premiums are enough to *pay expenses* (which need not be heavy), and trust to sales, etc., for the "net proceeds."

One thing has been fully demonstrated by the exhibits of honey at fairs, and that is, that bee-keeping is fully abreast of other productive industries; and when compared with some, is much ahead in attractiveness and value.

The honey exhibition at the Ohio Centennial Exposition at Columbus, from Sept. 4 to Oct. 9, is not to be made just for the money there is in it, but to show the progress in bee-culture during the last hundred years; and it is hoped that it will be the largest and most attractive that has ever been held in this country; and, so far as I know, those engaged in the matter have the vim and push to do credit to the fraternity. Just think of a building 36x80 filled with the luscious God-given sweet! I have seen tons of honey piled up at fairs that did not make as much show as one-fourth the amount might have been made to do.

Auburndale, O.

FOUL BROOD.

What Produces It?—Sulphuric Acid Treatment.

Written for the American Bee Journal

BY WILLIAM KLINTWORTH.

It is easier to ask a question than to answer it. We may have theories upon certain things, but if our theories are not founded upon facts that corroborate our ideas, our theories have no foundation, and are not worth much. What creates foul brood? We might ask, what creates sickness, such as typhoid fever, yellow fever, and other diseases that occur more in some localities than others?

If we could see atmosphere, or the production of decayed vegetation, in its true light, we would know more about diseases than we do now. But we know those things only in part. It is clear to my mind that the same cause produces chills and fever, yellow fever and typhoid, and some other diseases; but how much of that substance it takes to create a certain disease, cannot be stated with any certainty. But after it is developed it is not merely a dead substance, but has life in itself, and takes possession of its victim. Then the question comes to us, what can we do to kill that, and not hurt the bees and brood?

There are several things that will destroy foul brood, but we cannot apply them. When a colony of bees has foul brood, it not only affects the brood, but bees and queen also, and consequently they should then be fed, or we will not always accomplish our object. If I found foul brood among my bees, I would feed them all, for it would be hard to tell how soon it would develop in those that I could not discern anything wrong, and at the same time were diseased.

How to Feed Sulphuric Acid.

I will now describe how to feed sulphuric acid: Take 60 drops of sulphuric acid to one pint of water, and add one pint of honey. Mix it thoroughly, and that will do to feed. I prefer to feed from beneath, but if I could not do so, I would take the bees and frames out of the box. I would then take 60 drops of sulphuric acid to one pint of water, and wash the inside of the box thoroughly with it, and then put the bees back into the box, and feed the best way I could with the preparation. I have fed one quart of it to one colony of bees inside of 24 hours.

The Fire Treatment of Foul Brood.

I know that some who have had experience with foul brood, recommend burning the bees, but I must confess that I have failed to see it in that way. Suppose I had only 3 or 4 colonies of bees, and had discovered that they were foul, I would then take them and burn them, hives, bees, and all. The question comes to me, what have I gained by doing so?

But suppose I had a larger number, and find that some of them are foul, and burn them; and in a few days I find some more, and do the same with them, and I do so until I have burned them all—where are my profits? I keep bees for pleasure and profit. As long as everything goes all right, I get plenty of honey—I think much of my bees. But when they get diseased, I burn them alive! Does that not look hard?

But we say, "It can't be cured with any certainty." How do we know? Have we tried everything that we can? If I had foul brood among my bees, and I had no other remedy, before I would burn them, I would take the bees and brush them off the comb into a box, as if I would ship them. I would take box, frames and all, except the bees, and put them into a bleach box, or a big dry-goods box. I would take a half pound of sulphur, put it into an

iron kettle or something fire-proof, and place it in the box with the hive. Then set the sulphur afire. After it had burned, put the hive on the old stand, and put the bees into it. That will kill the brood and eggs, and save the hive, frame and bees. Has any one ever tried it?

Marietta, Ohio.

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Sept. 25, 26.—Cedar Valley, at Cedar Falls, Iowa.
J. J. Owens, Sec., Waterloo, Iowa.

Sept. 26.—Progressive, at Newburg, O.
Miss Dema Bennett, Sec., Bedford, O.

Oct. 3-5.—North American, at Columbus, O.
W. Z. Hutchinson, Sec., Flint, Mich.

Oct. 4.—Ohio State, at Columbus, O.
Frank A. Eaton, Sec., Bluffton, O.

Oct. 11, 12.—Union, at Clayton, Ills.
S. N. Black, Pres., Clayton, Ills.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting. Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Yield of Fall Honey.—Jno. A. Thornton, Lima, Ills, on Sept. 5, 1888, says:

The yield of fall honey will be good. I will have an average surplus of about 35 lbs. per colony. The quality is equal to clover, as some of it was from red clover. The largest yield is from smart-weed. My 200 colonies have gathered a good supply for winter besides the above amount of surplus.

A Blooming Curiosity.—J. C. Bell, Belton, Tex., on Aug. 31, 1888, writes:

I send a blossom that made its appearance about April 1, from which the bees gathered quite a quantity of honey for 60 days. Since the rains set in on Aug. 18, it is blooming again. What is it? Bees have done finely in Texas this year.

[This is not yet identified. It is a curiosity, and I should much like to have a pressed specimen showing more of the plant. Please address it to T. J. Burrill, Champaign, Ills.]

Chapman Honey-Plant Seed.—H. Chapman, of Versailles, N. Y., on Sept. 10, 1888, gives the following information in reply to a question by Mr. R. Bacon, on page 596:

The seed of the Chapman honey-plant should be collected as soon as the balls commence to turn brown; the balls should be spread upon platforms until thoroughly cured, when the seed can be easily shaken from the heads. But to separate the seed from the capsule, requires more labor. I accomplish this with a machine devised by myself, and which consists of a cylinder thickly studded with steel teeth, and which is made to revolve within another cylinder, from the inner sides of which project steel teeth. It is unnecessary to remove the capsules from seed used at home, but I have always cleaned that which I sold.

Heart's-Ease Honey.—John Haskins, Empire Prairie, Mo., on Sept. 7, 1888, writes:

Three to four weeks ago it seemed as though I should have had another failure with my bees; but about the middle of August they commenced to swarm, and no person that has not seen bees working on the heart's-ease can form but little idea how fast they will gather honey. The colonies that three weeks ago I did not know would gather enough honey to winter on, will probably give me in comb honey from 100 to 150 pounds each. There are thousands of acres of heart's-ease here.

Gay Feather.—D. W. McDaniel, of Hamilton, Ills., on Sept. 3, 1888, says:

I send a specimen of a honey-plant to be named. It grows on thin clay soil, and from 2 to 4 feet in hight. Bees work on the blossoms all day. The bloom commences at the top of the spike, and blossoms downward. Please give its name in the "old reliable" AMERICAN BEE JOURNAL.

[This is "gay feather" (*Liatris scariosa*); not known to be specially valuable for honey; but like other "compound" flowers, it is a great pollen producer.—T. J. BURRILL.]

No Swarms or Honey.—Mr. John Boerstler, Vashon, Wash. Ter., on Sept. 7, 1888, says:

I am not discouraged yet, although the bees did not swarm or store one pound of surplus honey this year. In the spring it was too wet, and after that they secured a good supply of stores, and will have plenty to winter on; but not a pound for me. I will have to do without honey this year. All right; I guess I am not the only one in that "boat."

Hedge Hyssop, etc.—T. M. Coleman, Glendon, Iowa, on Aug. 28, 1888, writes:

I send you a part of a plant which grows in a corner of my lot, that I do not recollect of ever seeing before this season. It grows about 6 to 7 feet high, and the bees work on it as if they liked it. Will you please state, in the BEE JOURNAL, what it is.

Bees are doing nothing as to surplus honey. My colonies have been strong all the season, and I have not had an ounce of honey and no swarms this season. The most of them stored in about enough to winter on, from the linden trees, of which I have a good bee-range.

[This is "hedge hyssop" (*Lophanthus scrophularifolius*); like most of the mint family, it is an excellent honey-plant.—T. J. BURRILL.]

Excessive Swarming, etc.—Mr. Franklin Wilcox, Mauston, Wis., on Sept. 10, 1888, writes:

The bees have not worked "according to rule" this season. They wintered fairly well, but dwindled very badly in the spring. I had 3 swarms in June; they swarmed almost every day from the middle of July to Sept. 4. I have kept bees for 20 years, and I have never had so much swarming as this year. I hived nearly all the first swarms on full combs on the old stands, cut out queen-cells, and hived back after-swarms; in this way all colonies have been kept strong. The crop of honey is better than last season, though rather below an average. The honey season usually ends by Aug. 20, but this year it continued good till Sept. 4, since which time only the buds of black-oak have yielded a clear, fine-flavored nectar. From sunrise till 9 o'clock it may be seen in drops on the ends of dark-colored, shining buds. It is no honey-dew. It has lasted a week or more. I never saw it before, and may never see it again.

Happily Disappointed.—Rev. S. Roese, Maiden Rock, Wis., on September 1, 1888, says:

The very heavy rains have ceased here, and we have now had 10 days' fair weather, after the winter wheat in shocks was nearly spoiled, and all other crops but corn (so far) a total failure. We have had for the last week or so, a fair honey-flow, and I feel happily disappointed. The bees are taking advantage of this opportunity. Since my last report I have extracted over 400 lbs. of honey, and take off about the same number of pounds of comb honey, for which I feel thankful.

Honey Coming in Freely.—J. E. Pryor, Dexter, Iowa, on Sept. 13, 1888, writes:

Up to Aug. 1 our bees scarcely stored enough honey to keep them from starving; in fact, in June we had to feed to keep them breeding. But since Aug. 15 I think I never saw bees do any better. I have had 10 or 12 swarms since Aug. 22, all of which will have considerable surplus honey. Swarms that were hived on full frames of foundation, had their hives filled with honey to the exclusion of the queens, in from 4 to 6 days. The honey is of the finest quality of fall honey, very thick and heavy, and is still coming in quite freely. Our bees will be in splendid condition for winter. I increased my apiary from 48 to 76 colonies, by natural swarming.

Bee-Keepers' Union.—Dr. H. J. Scoles, Knoxville, Iowa, on Sept. 10, 1888, says:

As to the change of time of election of officers and payment of dues to the Bee-Keepers' Union, I vote "No!" I think that it would be a detriment to the Union, and decrease the membership instead of increasing it. It would bring the election and renewal of membership at a time when the bees are in winter quarters, and there is no fear or talk of the bees interfering with any one; and all would rest content, and be more likely to forget, than they would if it came at a time when it required attention.

☞ The 6th annual meeting, and basket picnic, of the Progressive Bee-Keepers' Association will be held on Wednesday, Sept. 26, 1888, at the residence of Mr. W. S Wait, in Newburg, Geauga Co., Ohio. All are invited to be present. DEMA BENNETT, *Sec.*

☞ The Cedar Valley Bee-Keepers' Association will hold its annual meeting at the Council Rooms, Cedar Falls, Iowa, on Sept. 25 and 26, 1888. All who are interested in bees and honey are cordially invited to be present. J. J. OWENS, *Sec.*

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1, postpaid.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

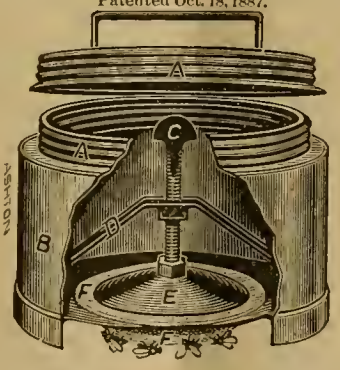
Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Hastings' Perfection Feeder.—This Feeder (illustrated) will hold 2 quarts, and the letting down of the feed is regulated



by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c. R. A. BURNETT.
Sep. 12. 181 South Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 17@18c.; 2-lbs., 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 11 to 12c. Extracted, white, 7½@8c.
Sep. 5. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—Fancy white 1-lbs., 17@18c.; off grades, 15@16c. Fancy white 2-lbs., 13@14c.; off grades, 12c. Extracted, white, 7½@8c. New crop is arriving and demand is good.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Sep. 5. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@15c.; 2-lbs., 11 to 14 cts.; amber, 7@9c. Extracted, white, 5¼@6c.; light amber, 5@5¼c.; amber and candied, 4½@4¾c. Receipts light and market firm for best qualities.
BEESWAX.—17@21c.
Aug. 25. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best new white comb, 15@16c, with little in sight and slow sales. Market is low, and beekeepers will do better to hold honey until approach of cold weather.
BEESWAX.—21@22c. Supply limited.
Aug. 22. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb., for which demand is fair. Comb honey, 12@15c. Some small lots have sold at 14@16c. Market quiet.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Aug. 24. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices firm, and stock light.
BEESWAX.—None in market.
Aug. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14½@15½c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@7½.
Sep. 13. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: New 1-lb. sections, 18@20c.; 2-lbs., 14@16c. New extracted, 8@10c.
BEESWAX.—25 cts. per lb.
Aug. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 5½ cents; light, 5¼c.; amber, 4½@5c. Comb, 1-lbs., 12@14c.; 2-lbs., 9@13c., as to quality. Arrivals not large, and supplies held firmly.
BEESWAX.—Dull at 19@22c.
Aug. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: New white 1-lbs., 18c.; light 1-lbs., 16c. California white 1-lbs., 18c.; light 1-lbs., 16c.; white 2-lbs., 16c.; light 2-lbs., 14c. Extracted, white, 8c.; amber, 7c.
BEESWAX.—18@20c.
Sep. 5. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, 4½@5½c.; if in cans, 8@9c. White clover comb, 14@15c. Market is steady and receipts light.
BEESWAX.—21c. for prime.
Sep. 6. D. G. TUTT & CO., Commercial St.

MILWAUKEE.

HONEY.—New white 1-lb. sections 18c., and very fine, 20c.; 1-lbs. 15@18c.; old 2 and 3 lbs., not salable, 12½@14c.; dark 1-lbs., old or new, 12@13c. Extracted, new white in kegs and ½-barrels, 8@9c.; old, in same packages, 7@8c.; in tin, 8@9c.; dark in barrels or ½-barrels, 6@6½c. Arrivals of new crop small; demand not urgent, and only very moderate trade.
BEESWAX.—22@25c.
Aug. 31. A. V. BISHOP, 142 W. Water S

Conventions.—The time for holding Bee-Keepers' Conventions has now arrived, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25. It also contains a lot of blank leaves on which you can note important matters as they come up. Do not fail to send for a copy of it.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one ont of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

We Have some copies of the old edition of Cook's Manual left, which we will sell at the old price, $1.25. The price of the new edition is $1.50 per copy; a notice of which may be found on page 579.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Queens.—We can mail a Tested Italian Queen (bred for the best results as well as for beauty) for $2.00; Untested Queens $1.00 each, or $9.00 per dozen. Orders solicited.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Advertisements.

WANTED—Situation. I can manage, or assist in, a practical apiary; can give good references. Please address me. HARRY GALEY,
37A2t GRANBY, PROV. QUE., CANADA.
Mention the American Bee Journal.

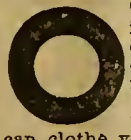
BEE-KEEPERS, TAKE NOTICE!

TO INTRODUCE our SECTIONS we will from now until Jan. 1, 1889, sell A No. 1, all-white Sections at $2 75 per M; and second class at $2.25 per M. All other Supplies at a corresponding low figure. ☞ Price-List and samples free. Address,
R. H. SCHMIDT & CO.,
38A1t NEW LONDON, WIS.
Mention the American Bee Journal.

HANDSOME
ONE-PIECE SECTIONS.

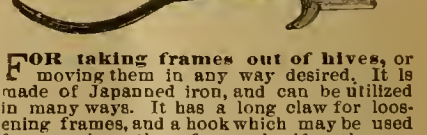
WE have a limited quantity of One-Pound Sections, 4¼x4¼, a trifle less than two inches wide, with narrow tops, in packages of 1,000 each. They are manufactured from extra white lumber planed on both sides, making them the finest and most attractive honey-section in the world. Price, $4.00 per package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.



The BUYERS' GUIDE is issued March and Sept., each year. It is an encyclopedia of useful information for all who purchase the luxuries or the necessities of life. We can clothe you and furnish you with all the necessary and unnecessary appliances to ride, walk, dance, sleep, eat, fish, hunt, work, go to church, or stay at home, and in various sizes, styles and quantities. Just figure out what is required to do all these things COMFORTABLY, and you can make a fair estimate of the value of the BUYERS' GUIDE, which will be sent upon receipt of 10 cents to pay postage,
MONTGOMERY WARD & CO.
111-114 Michigan Avenue, Chicago, Ill.
38A13t
Mention the American Bee Journal.

Jones' Frame Pliers.



FOR taking frames out of hives, or moving them in any way desired. It is made of Japanned iron, and can be utilized in many ways. It has a long claw for loosening frames, and a hook which may be used for carrying other frames besides the one held by the Pliers. Price, **40** cents., by mail. By express, 30 cents.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

TESTED GOLDEN ITALIAN QUEENS.

ONE Queen, $1.00; 2 Queens, $1.80; three Queens, $2.60; one-half dozen, $5.00. By **Return Mail.** **HENRY ALLEY,**
30A3t WENHAM, MASS.
Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES ALL OVER THE WORLD
PUBLISHED BY THOS. G. NEWMAN & SON, CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Sept. 26, 1888. No. 39.

EDITORIAL BUZZINGS.

The Honey Exhibit at the St. Joseph, Mo., Fair was a very grand one, and exceeded in magnificence that of last year. The Rev. Emerson T. Abbott captured premiums amounting to $110. Of the other premiums we are not yet advised.

Hon. A. B. Cheney, of Sparta, Mich., is running on one of the tickets as candidate for Governor of that State. Mr. Cheney is a very enthusiastic bee-keeper, as well as an influential and honored gentleman.

Feed the Bees in such a manner as to prevent robbing. A good feeder is worth many times its cost as a prevention of robbing. If there is danger of such, contract the entrance so that only a single bee can pass. This will enable the bees to defend their hives against intruders.

A Change of Time.—Owing to the Quincy celebration, the next meeting of the Union Bee-Keepers' Association will be held at the Town Hall in Clayton, Ills., on Tuesday and Wednesday, Oct. 16 and 17, commencing at 10:30 o'clock on Tuesday.

Susquehanna Co., Convention.—H. M. Secley, of Harford, Pa., on Sept. 14, 1888, announces the following change in the date of meeting of this bee-convention :

Owing to the 8th day of September being a very wet day, the Susquehanna County Bee-Keepers' Association postponed their meeting until Oct. 6, 1888, when it will be held at Montrose, Pa., the same as before, with the same programme and at the same hour.

Not a "Corner!"—The daily papers are very fond of stating that there is a "corner on honey down in New York," and then they invent incredible stories about that "corner" or "trust." Mr. G. H. Knickerbocker, of Pine Plains, N. Y., writes us as follows on this subject :

I enclose a clipping credited to the *Farm, Field and Stockman* of Chicago. This is another illustration of the fact that some newspaper men get a "hint," and then build up a big lie, and the bigger the lie the faster they will copy it. I have written to the editor asking him to retract these statements, as they do our association great injustice by grossly misrepresenting our motives and intentions.

Will you please publish the clipping and also the enclosed circular letter, which will show how utterly false these charges are? We work only for the greatest good to the greatest number, and in the interest of dealers as well as producers.

Here is the item to which Mr. Knickerbocker alludes :

A MELLIFLUENT TRUST. — The latest thing in trusts reported is a combination of honey-producers, in session at Utica, N. Y. The producers present claim an annual output of over 5,000,000 pounds of comb honey, and 1,000,000 pounds of the extracted product. The large producers propose to establish uniformity of shape, size, and style of the packages for the coming year, the price to be charged to the wholesale dealers, and a plan for uniformity of action to prevent the cheapening competition which has marked the honey sale during the past. A trust to be composed of all the large producers in the State is proposed, nominally to regulate the size of combs, so as to unify the marketable packages, but actually to buy up all the surplus honey when there is a glut of production, so as to keep up the price and shut out competitors who might be willing to sell at a sacrifice.

It is hardly probable that this mellifluous syndicate will unify all, or even a majority of the bee-men of the United States, in a scheme to corner the honey-market, at least so long as honey remains as a high-priced luxury in the principal markets of the country.—*Farm, Field and Stockman.*

The following is the true account concerning the formation of the Honey-Producers' Exchange, being an official document from the Secretary :

PINE PLAINS, N. Y., April 26, 1888.

At the convention of the New York Bee-Keepers' Association, held at Utica, Jan. 17, 18 and 19, 1888, a committee composed of John Aspinwall, C. G. Dickinson, A. I. Root, and P. H. Elwood, was appointed to draft a scheme looking to the organization of an Inter-State Association, which should not be confined to any one section, but should, in the *broadest sense*, be a benefit to its reporters and members all over the United States.

This committee made the following report, which was adopted :

Your committee would suggest that this Association shall resolve itself into a Honey Producers' Exchange, for the purpose of gathering statistics of the wintering of bees and the honey crop throughout the United States.

Resolved, That the duties of the Secretary of this Association shall be the forwarding of suitable blanks to reporters, so that they shall report on the first day of May, June, July, August and September from every honey-producing State. No State to have more than six reporters, who shall fill them out and send by return mail to the Secretary. He shall have the reports printed and mailed to members and reporters by the 10th of each month.

Resolved, That the Secretary keep account of his time involved in this work, and report the same at the next convention. He shall be empowered to draw upon the Treasurer for funds necessary to carry out the work.

This organization is to be a secret one, and the statistics obtained are not to be made public, but are for the exclusive use of the members and reporters of this Honey Producers' Exchange. To obtain reliable statistics (per centage of loss in wintering, honey crop, per centage of increase, quantity of honey on the market, prices offered, etc., etc.) will require the hearty co-operation of intelligent reporters throughout the United States. The advantages of these statistics are too plain to every honey-producer and dealer to require any elaboration here. We would only say that if you know the honey crop, the market is yours, and you can secure prices in keeping with the amount of honey which you know is on the market.

On the last of April, May, June, July and August postal-cards with a set of questions to be answered on them and returned *at once*, will be sent to each reporter, and the compiled report will be sent out by us on the 10th of each month.

Others who desire these reports can have them by sending us one dollar, which will make them members of the Exchange, and also of the New York State Bee-Keepers' Association.

G. H. KNICKERBOCKER, *Sec.*

All the newspaper sensations about "corners" and "trusts" having nothing else to rest upon than the above—which is only a system of "gathering statistics of the wintering of bees and the honey crop throughout the United States!" Just that and nothing more! Will the newspapers now as readily copy the facts as they did the falsehood?

Another Bee-Keeper Gone.—Mr. F. A. Snell, of Milledgeville, Ills., on Sept. 13, 1888, wrote as follows concerning the death of a lady bee-keeper :

Mrs. Catherine Hendrick departed this life on Sept. 12, 1888. She leaves a husband and four children to mourn her death. She was 44 years old, and her disease was cancer. Mrs. Hendrick, though not an extensive bee-keeper, was one of our most successful ones. In her well-managed apiary she kept only pure Italian bees. She used the modern improvements in hives and surplus receptacles, and was well informed, having read numerous work on bee-culture. Mrs. Hendrick was a true Christian, and was loved by all who knew her. She had kept bees for 10 years, and had resided here 31 years.

The Preserving qualities of honey are immense. The best hams are cured with honey, and pears and apples are often preserved in honey. In fact, honey has the quality of preserving for a long time in a fresh state anything that may be laid in it or mixed with it, and to prevent its corruption in a far superior manner to sugar ; thus many species of fruit may be preserved by being laid in honey, and by this means will obtain a pleasant taste, and give to the stomach a healthy tone. One who has once tried it will not use sugar for preserving fruit.

GLEANS OF NEWS.

Nebraska Bee and Honey Show.—The bee-keepers of Nebraska are progressive and pushing—always in the lead in every enterprise which will do honor to the pursuit.

About a month ago Mr. J. N. Heater, Secretary of the State Association, sent out circulars to the bee-keepers of Nebraska, the first paragraph of which reads thus:

The Board of Managers of our State Fair Association have very generously appropriated $600 to be used in erecting permanent quarters for the exhibition of bees, honey and apiary supplies at our State Fair, and in accordance it is expected that the bee men and women of the State will turn out and bring a liberal share of their product for exhibition until this new building shall be filled until we shall even surprise ourselves. Thousands of people from the East will visit our coming State Fair, and the light exhibit heretofore has impressed them with the idea that we were not producing much honey in this State, while the opposite has really been the tact, and it has only been our neglect to show this product that has caused this impression. Now that new and ample quarters are to be furnished us in which to make an exhibit, let us, as bee-keepers of the State, unite to see how well we can fill these new quarters, and show to those who visit our coming State Fair, what a lot of sweet things we are producing here in Nebraska.

The result of this appeal to the bee-keepers is thus stated by the Lincoln *Journal* in its report of the Fair:

When Supt. Whitcomb of the department of bees, honey and apiary goods asked the Board for a new building, he agreed that it should be filled the first year. The promise has been faithfully kept. The new structure is so full of exhibits that it is with difficulty that the spectators find room to stand while they are observing the many interesting features of the exhibit.

The present display, Mr. Whitcomb says, is larger than of all previous years combined, and Mr. Whitcomb ought to know. Cases and jars and vessels of all kinds are filled with the most luscious honey. There are cords of apiary goods with here and there an exhibition colony of bees, not including the seven hives out in the bee-yard.

The first display encountered on entering the building is that of Mrs. J. N. Heater, of Columbus. This exhibit includes comb honey to the amount of 500 pounds, and 200 pounds of extracted honey, bee-hives, extractors, plants and all kinds of bee-keepers' supplies. The exhibit occupies the front half of the building. It is tastefully arranged, and attracts no end of attention.

Special credit should be given this year to the bee-men of the State, who have sent in a large number of samples of their product. There is not so much from the vicinity of Lincoln as one would expect, but the remainder of the State has done well, and will do better in the future.

M. Tower, of Lincoln, shows one case of comb honey, two gallons of extracted honey, and one colony of bees.

Almon Tower, of Lincoln, shows the same amount, smokers, and 2 colonies of bees.

Geo. F. Warren has two cases of comb honey.

Henry Patterson, of Humboldt, exhibits two cases of comb honey, and 100 pounds of extracted honey.

Mrs. E. Whitcomb, of Friend, shows 20 pounds of fine granulated honey.

A. V. Kouba, of Crete, has a case of comb honey and 15 gallons of extracted honey, 2 nuclei colonies, queens, foundation mill, and foundation, and one colony of bees.

Ernest Bose, of Pleasant Dale, has a case of comb honey.

Mrs. E. J. Watterman, of Milford, has a case of comb honey.

Thos. Dobson, of Germantown, has extracted honey, one colony of bees.

W. P. Dakin, of Lincoln, shows one colony of bees.

J. E. Rose, of Friend, shows a case of comb honey and five gallons of extracted honey.

An exhibit that fills nearly half of the building is made by E. Kretchmer, of Coburg, Iowa. This is not a Nebraska exhibit, but Coburg is but a few miles from the border, and the State can almost claim the display, which includes 300 different articles in the line of bee-supplies alone, embracing everything relating to practical bee-culture; some 23 volumes on bees and honey, including nearly all the literature of the subject, two of the books being written by Mr. Kretchmer; a full colony of Italian bees in working order, and a colony of bees in a revolving observatory hive; 600 pounds of honey in jars, pails, bottles and receptacles of all kinds, and also in the comb.

The hives in the yard were weighed yesterday morning, and the increase for two weeks was found to be as follows: A. V. Kouba, 74 pounds; M. Tower, 65 pounds; A. Tower, 60 and 15, the bees from the latter hive having gone home; Thos. Dobson, 40 and 42 pounds; W. P. Dakin, 13 pounds, these bees also having returned to their old location.

The building—the exhibit—the honey—the implements—*all* are very creditable to the apiarists of that youthful State; and should stir up apiarists in older States to be "up and doing" something to their credit in the line of exhibiting their product.

Columbus.—We do not refer to the discoverer of America, but to the capital city of the State of Ohio, where the next meeting of the North American Bee-Keepers' Society is to be held on Oct. 3 to 5—NEXT WEEK. Dr. Mason, writing from the grounds, has this to say to those intending to go to Columbus, which should be read by all who intend to go:

Most of those who will attend will be within the reach of reduced rates to the Ohio Centennial Exposition. Let each one intending to attend the convention inquire at his railroad station about rates to the Centennial; and if there is no reduction from that station, buy a round-trip ticket to the nearest large town or city, and there buy a round-trip ticket to the Centennial. Most if not all such tickets will have a ticket attached that will give one admission to the Centennial Grounds. If the holder does not care to use it, it can be disposed of for what it cost. I do not know the rates from New York, Toronto, St. Louis, Chicago, Louisville, etc., but excursions are coming every week. Fare from Toledo, to Columbus, O., (124 miles) is and will be $2.50 round trip.

No reduced rates for board and lodging have been made as yet; but good meals can be had for 25 cents, and lodging for from 25 cents and up. It has been customary to get reduced rates at what are called first-class hotels, and the rates are frequently such that only a few take advantage of them, the remainder preferring to secure equally good accommodations at other hotels and boarding-houses at cheaper rates, so that the social part of the convention is divided.

The convention will meet in the State House, in the hall of the House of Representatives, at 11 a.m., Oct. 3, and I shall try to be prepared to refer all delegates to good lodging and boarding places, at rates that will best suit their pocket-books, and then all can make the place of meeting "headquarters" for the social part.

We have interviewed the Passenger Agent, at Chicago, of the Pennsylvania Lines (Pan Handle route), and he informs us that application has been made for reduced rates for the Bee-Keepers' Convention, and a rate of 1⅓ fare has been granted. Tickets can be obtained at any station on that route, on Sept. 29 and 30, and Oct. 1 and 2, by purchasing a full-fare ticket to Columbus, O., and obtain with it a certificate from the agent of such purchase. This certficate must be counter-signed at the Convention by its Secretary, and upon presentation of this certificate, the ticket agent at Columbus, O., will sell the return ticket at one-third fare.

The fare from Chicago to Columbus is $9.20, and trains leave Chicago at 10:30 a.m. and 8:30 p.m.

Read these particulars carefully, for if not strictly followed, no reduction can be obtained.

Fresh Viands or Hash!—The followiug is from a valued correspondent to the AMERICAN BEE JOURNAL, but as he did not indicate whether it was for publication, or only for the Editor's private reading, we omit his name. He wrote us something about the new edition of Prof. Cook's Manual, and what it said about Mr. Cheshire and his book. Upon receiving our reply, he wrote us as follows:

Lest you may misunderstand me about the Cook and Cheshire controversy, I will just say that I am iuclined to think that Prof. Cook is *correct* when he says Cheshire's Bee-Keeping is a "compilation." It is a magnificent compilation, however, and a most beautiful book.

I cannot help but meditate upon the destruction of idols. William Tell, whom boys have so often tried to imitate, has gone; Shakespeare is laid on the shelf; Pocahontas is no more; Captain John Smith and Miles Standish rest under suspicion; and now this atmosphere of doubt pervades the bee-keeper's sanctum, and clothes him with uncertainty as to whether he may be feasting on fresh viands, or only after all subsisting on hash.

As between Cook and Cheshire I shall tie to the American at all hazards, until proper treaties are established.

If authors and inventors could forget pecuniary interest, and seek only for that which is right, best, and true, the funeral expenses of jealousy could be well afforded.

That the beautiful volumes of Mr. Cheshire's "Bees and Bee-Keeping" are under ban, is true; but their elegance, like charity, covers a multitude of sins! As a work of art—as a triumph of the printer's art, both in "letter press" and engraving—as a full and complete treatise on the subject, the work is a master-piece, and stands unexcelled and unapproachable in any Country, clime or language. We admit that it is marred by jealous flings, inexcusable errors, and uncredited cullings, but these we charge up to human weakness and frailty.

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Sept. 25, 26.—Cedar Valley, at Cedar Falls, Iowa.
J. J. Owens, Sec., Waterloo, Iowa.

Sept. 26.—Progressive, at Newburg, O.
Miss Dema Bennett, Sec., Bedford, O.

Oct. 3-5.—North American, at Columbus, O.
W. Z. Hutchinson, Sec., Flint, Mich.

Oct. 4.—Ohio State, at Columbus, O.
Frank A. Eaton, Sec., Bluffton, O.

Oct. 6.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

Oct. 16, 17.—Union, at Clayton, Ills.
S. N. Black, Pres., Clayton, Ills.

Nov. 21, 22.—Pan Handle, at Wheeling, W. Va.
W. L. Kinsey, Sec., Blaine, O.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

When Buckwheat Yields, etc.—H. M. Seeley, Harford, Pa., on Sept. 14, 1888, writes:

I saw in the BEE JOURNAL a short time ago, the request to know if buckwheat yielded all day, or only in the morning. When we have a hot, damp and cloudy day, it yields nectar all day; all other times only in the morning. It has not yielded very much this season. My report for the season is as follows: From 7 colonies in the spring, I have taken 170 pounds of honey, and increased them to 12 colonies. I took 155 pounds of the honey from 2 colonies.

Bee-Keeping in Florida.—N. C. Larsen, Cleveland, Fla., on Sept. 10, 1888, writes:

My 10 colonies of bees are in splendid condition, with plenty of stores. I am trying to learn the seasons and honey-flows here, and have not taken any more than about 10 gallons of honey in all, for home use. I expect to get considerable honey the coming winter and spring. Our main flow, I think, is from pennyroyal, which blooms during the winter, and saw palmetto, which blooms during the spring months. However, if I can have honey enough for home use, I will be satisfied, considering my outlay thus far.

Yellow Fever in Florida.—John Craycraft, of Altoona, Fla., on Sept. 12, 1888, writes as follows concerning the trouble in Florida:

The orange crop is fine and large, and will be a great income to the people here. But we are all in prison, as it were. A guard is across the whole line of the State to keep us in like criminals. We can ship nothing out of the State, and our mail matter is all defaced and detained. We are in a part of the State where there has not been a case within 50 miles of us, and we are treated like criminals, if we attempt to leave the State. There is no objection to a strict quarantine on Jacksonville, but to treat us all alike, and for the authorities that be, to pen up in a camp, women and children with negroes and roughs, as is done, is more than is pleasant. Such outrages are far worse than the "fever." There are a number of cities in the North that have offered their hospitality to the afflicted city of Jacksonville, and for its people to come to them, but the "powers that be" would not let them leave, but have kept them in pens "like thieves," to sicken and die, so that they could carry out their "theory," or kill in the attempt. We have plenty to eat, and things are allowed to come into the State, but nothing we have can go out in exchange but cash, and that will not last long. I cannot get along without the BEE JOURNAL, if our honey crop is small this year; we must know what others are doing.

Golden-Rod and Wild Asters.—Rev. S. Roese, Maiden Rock, Wis., on Sept. 10, 1888, says:

We are having a nice flow of honey from golden-rod and wild asters. My bees are doing finely, and if frost holds off two weeks more, they will be in fine condition for wintering. I have extracted 1,400 pounds, and taken off 600 pounds of comb honey—a happy disappointment since my last report. The bees are still working lively, and all are equally strong for winter.

P. S.—Sept. 14.—We had a hard frost last night. I will prepare my bees for winter.

Buckwheat Yielding Honey.—H. M. Moyer, Hill Church, Pa, on Sept. 15, 1888, says:

Mr. S. J. Youngman, on page 563, asks if buckwheat yields nectar all day, or only in the forenoon. In this locality (Berks Co.) the bees work only in the forenoon, and I think also in other places. Hardly a bee could be seen on it in the afternoon. My experience is with common Silverhull and Japanese buckwheat. The Silverhull has the most blossoms, and is longest in bloom, but the Japanese is a good yielder for grain.

Sweet Clover and Buckwheat.—D. F. Park, Athens, Pa., on Sept. 13, 1888, writes:

The opening of white clover found my 80 colonies well stocked with bees, but nearly destitute of honey. The honey-flow was light, so that I took off only 12 cases of white honey. This was secured by taking out the outside frames and putting on cases with empty combs. By shaving the thickest edge with a hot knife, it was capped as white and even as from foundation. Sweet clover, of which we have a great abundance along our rivers, comes into blossom before the close of white clover, when bees forsook the latter, and filled the sections with the sweet clover honey, thus spoiling many cases that would otherwise have been white. I think that sweet clover is much overrated as a honey-plant. Buckwheat has yielded fairly, so that I shall have 40 cases of sweet clover and buckwheat honey combined. I have had but 4 swarms this season. Last season's average was 35 pounds per colony, which was small; however I shall realize more money this year, as I shall not repeat the experiment of sending my honey to a city commission house, getting returns of 6 cents per pound for nice buckwheat honey! It don't pay.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1, postpaid.

Bees and Honey at the Woonsocket, R. I., Fair attracted considerable attention in the Harris Hall. The *Patriot* thus describes it:

Harris Hall looked quite gay at night when lighted, all the articles on all the tables showing up to good advantage.

One of the most attractive as well as instructive features of the hall display is that made in the Apiarian Department by Samuel Cushman, of Pawtucket. If any one desires to realize these lines of Watts, he or she would do well to visit the hall:

"How doth the little busy bee
Improve each shing hour,
And gather honey all the day
From every opening flower."

There are collections of bees of the Syrian, Austrian and Italian species. The Italian-hybrids can be seen in a working glass-covered hive, "busy as bees," forming cells, storing honey, collecting pollen, spreading wax or carrying out dead bees. A wire work tube is connected with the hive and extends to an opening in a front window of the hall. Through this the bees pass out during the day for the purpose of collecting honey, and when loaded, will return and go through the process of storing what they have obtained, in doing so showing their art in the distribution of honey, wax and pollen. The queen-bees can be seen in the other hives producing eggs, while they are surrounded by hundreds of working bees, all busy, not one for an instant idle. There is certainly a grand lesson of industry, skill and perseverance to be learned from these bees. Their owner understands his business well, and knows all about bees.

Besides the bees, this gentleman also exhibits honey in the comb, extracted honey and winter hives.

Among other contributors C. F. Tarbell exhibits sixty varieties of asters.

Convention Notices.

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall, on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee-keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The 6th annual meeting, and basket picnic, of the Progressive Bee-Keepers' Association will be held on Wednesday, Sept. 26, 1888, at the residence of Mr. W. S. Wait, in Newburg, Geauga Co., Ohio. All are invited to be present. DEMA BENNETT, *Sec.*

☞ The Cedar Valley Bee-Keepers' Association will hold its annual meeting at the Council Rooms, Cedar Falls, Iowa, on Sept. 25 and 26, 1888. All who are interested in bees and honey are cordially invited to be present. J. J. OWENS, *Sec.*

☞ The next meeting of the Union Bee-Keepers' Association will be held at Clayton, Ills., on Tuesday and Wenesday, Oct. 16 and 17, 1888, in the Town Hall at 10:30 a.m. The Park Hotel will charge $1.00 per day; the restaurants 25 cts. per meal. We expect Messrs Dadant, Hambaugh, Cumm and other prominent bee-keepers to be present.
S. N. BLACK, *Pres.*

☞ The Ohio State Bee-Keepers' Association will hold its 6th annual meeting in joint convention with the North American Bee-Keepers' Society at Columbus, O., on Oct. 3, 4 and 5, 1888. A special business session of the Ohio State Bee Keepers' Association will be held on Oct. 4, to elect officers for the coming year, and for the transaction of other business. This business meeting will not interfere with the regular programme of the National convention of the same day. FRANK A. EATON, *Sec.*

☞ The North American Bee-Keepers' Society will hold its annual meeting on Oct. 3, 4 and 5, 1888, in Representatives' Hall at the capitol in Columbus, Ohio. The Passenger Traffic Associations will grant reduced rates only when 100 persons are present, holding railroad certificates. Owing to the short honey crop it is feared that a sufficient number of persons will not be present holding certificates, and that an attempt on the part of the Society to avail itself of the reduced rates offered by the Passenger Traffic Associations will only result in disappointment; hence it has been decided that the only course open will be to allow each member to shift for himself, or herself, to either take advantage of such excursion rates as may be available in his or her vicinity, buy round-trip tickets, or do something of the sort.
W. Z. HUTCHINSON, *Secretary.*

QUERIES & REPLIES.

Desirability and Advantages of Reversing.

Written for the American Bee Journal

Query 578.—When is reversing desirable? and what are its advantages?—Penn.

With me, never.—M. MAHIN.

I do not practice it.—J. P. H. BROWN.

I have had no experience.—MRS. L. HARRISON.

I am not sure that it is ever desirable.—C. C. MILLER.

Never, unless you want to compel the bees to move their honey to the supers.—DADANT & SON.

I do not practice it, and cannot see its advantages.—H. D. CUTTING.

Never. It has no advantages except to get the combs fastened to the bottom-bars.—G. W. DEMAREE.

I have never practiced this method, hence I do not know.—J. M. HAMBAUGH.

When the bees are gathering honey to get the frames solid full of comb.—R. L. TAYLOR.

I do not know that I ever found it desirable at any time, nor of any advantage in practice.—P. L. VIALLON.

It seems to be desirable to obtain well-filled frames. Beyond that I doubt if it gives permanent satisfaction.—EUGENE SECOR.

It is never desirable, except once, perhaps, to get the combs built out to the frames all around.—G. M. DOOLITTLE.

I do not think it desirable at any time. I have tested the matter somewhat, and base my opinion upon that experience.—J. E. POND.

1. To get combs fastened to the frames on all sides. 2. To insure against swarms; so my experience says. Others think not. 3. To get the bees into the sections at will, at the dawn of the harvest.—A. J. COOK.

It is desirable when you want the frames filled with comb, and also when the lower part of the combs are filled with brood, and the upper part with honey that you want put into the supers.—A. B. MASON.

After a good honey-flow, when the body of the hive has become too full of honey, the bees will then carry a part of it into the sections.—C. H. DIBBERN.

Oh, now this wants a whole article to answer it, and I have spoken my "piece" in several back numbers; but perhaps it is nearly time to repeat, as there are many new subscribers, and I guess I will do so before long, for reversing is a beneficial practice when properly understood and executed.—JAMES HEDDON.

It is desirable when preparing the bees for the honey harvest; desirable after the gathering begins, as it promotes the habit of carrying the honey to the supers, thus leaving the brood-combs for the use of the queen. The invertible system gives us more bees from an 8-frame Langstroth brood-nest than we can get from a 12-frame non-invertible of the same size.—J. M. SHUCK.

In brief, it may be said to be desirable to *some* when they wish to give the queen the full capacity of the brood-chamber for laying purposes, and when they want to have the frames built out in full all around. These are the main reasons, but some can find no excuse for reversing frames. Like all other questions, this has two sides to it.—THE EDITOR.

Uncapping the Combs of Honey in Extracting.

Written for the American Bee Journal

Query 579.—When extracting, is it best to uncap both sides of the comb before you put it into the extractor? or do you first uncap one side, then extract, and then uncap the other side?—Q.

Uncap both sides.—MRS. L. HARRISON.

Both sides, of course.—R. L. TAYLOR.

Uncap both sides to save time.—DADANT & SON.

Uncap both sides before putting it into the extractor.—A. B. MASON.

Uncap both sides first, and save much time.—A. J. COOK.

Uncap both sides before you place it into the extractor.—J. P. H. BROWN.

I have always uncapped both sides first.—C. C. MILLER.

I uncap both sides before placing the combs in the extractor.—J. M. SHUCK.

Uncap both sides before putting the comb into the extractor.—M. MAHIN.

Uncap both sides always, as it saves extra work.—G. M. DOOLITTLE.

Uncap both sides before putting the comb into the extractor.—J. M. HAMBAUGH.

Uncap from each side before the frame is put into the extractor.—H. D. CUTTING.

I do that way myself. I think you can do it more rapidly that way.—EUGENE SECOR.

Yes, by all means uncap both sides before you put it into the extractor.—P. L. VIALLON.

I always uncap both sides of the comb before I begin to extract either. It is only a matter of dispatch.—JAMES HEDDON.

I always uncap both sides. It is less work, owing to the fact that it will require less handling to do so.—J. E. POND.

Uncap only one side at a time; as the capping helps to strengthen the comb, and keeps it from breaking.—C. H. DIBBERN.

I shave the capping from both sides before the frame is placed in the extractor. It requires less handling of the frames to proceed in this way, and there is not the least inconvenience about it.—G. W. DEMAREE.

It makes a saving of time and trouble to uncap both sides before putting the frame into the extractor; though some uncap one at a time, the great majority uncap both at once.—THE EDITOR.

CORRESPONDENCE.

QUEEN-CELLS.

Do Queens Ever Lay Eggs in Royal Cells?

Written for the American Bee Journal

BY G. M. DOOLITTLE.

I see by the replies to Query 569, that some are still in doubt that a queen ever lays eggs in queen-cells. Formerly there used to be many such, but I had supposed that at this late day and age (after such men as Gallup, Grimm, Shuck and others had testified that they had seen queens deposit eggs in queen-cells), the doubting ones had given up the old theory of the queen hating a rival so badly that she would in no way contribute toward the getting of such an one; but in this I see that I am mistaken.

It seems to me that the way an egg is attached to a queen-cell should be enough to convince any one that none but a queen could so put the egg, occupying the same position that it occupies in a worker-cell.

I never saw a queen in the act of laying in a queen-cell, but my hired man did, which gave me positive proof that what I had long considered as a fact, was a literal truth. God said to all of his creation, after he had made it and pronounced it good, "Multiply and replenish the earth;" then why should not the queen perform her part of this work, as well as the mothers of all else living?

That one queen will kill another, when two come in contact, does not positively argue that the mother-bee should not do her part in keeping the colony provided with a means by which it could exist after she had left with a swarm. What difference could it make with her, after she had left, how many queens sprang up, so long as none of them could possibly harm her?

I am well aware that the workers do once in a great while carry eggs from an ordinary cell to an embryo queen-cell, still this is not done nearly so often as larvæ are so carried, and when eggs are so carried, it is very easily detected by the experienced eye, for they are placed in the cells in almost any shape, save the manner in which the queen does her work.

I once had a strong colony swarm, and before I could get around to do my part of the work, they returned, the queen having her wings clipped. Thinking that I would be all ready for them the next day, I did not try to divide them in the afternoon, as I sometimes do to save time for the swarms of the next day, but left them

as they were. The next day, when they came out again, I was on hand, but before they were fairly out of the hive, another swarm came tumbling out of a very populous hive and went with them.

No sooner were they all in the air, than the whole of them were re-enforced by another swarm from another hive, which I had said was not to swarm that year on account of their having a failing queen. This last hive had been opened an hour previous, and all queen-cells cut off, so as to keep them as I wished for a few days, till I could get some queens fertilized which I had under headway; and one can imagine my surprise and chagrin, when, before this last swarm had got two-thirds out, the whole mass went piling into the hive of the colony that I had determined should not swarm. After a few moments' thought, I concluded to leave them as they were (only I put on section room to the capacity of 100 pounds, or over), to see what would become of it.

The next morning, before 8 o'clock, out they came, and were hived in an empty hive, after giving them one of the good queens which were kept back the day before. Having secured them, and having the old queen, that I had said should not swarm, in a cage, I went to the hive to inspect it before I let her go back in. Now came the greatest surprise of my life in the way of queen-cells, for by turning to my diary I see that by actual count there were 423, 276 of them having eggs and larvæ in, when less than 11 hours before there was not a queen-cell in the hive.

Here was where I first detected the difference between eggs carried to a queen-cell by the bees, and those placed in them by the queen. I decided that 188 eggs had been laid by the queen in these cells, by their being attached by the point to the bottom of the cells, and 17 were carried there by the bees, as they were in all positions in the cells; 71 cells had larvæ, which the bees must have carried there, of course. These larvæ were from two to three days old, as nearly as I could judge, and all of them were literally swimming in royal jelly, as much so as any I ever saw of that age in my life. Here is a point worthy of note for those who claim that no queen can be really good unless started from the egg and fed as a queen.

Since then I have a few times had eggs and larvæ removed from the comb I had given to a queenless colony, to a dry comb at its side; but in all these instances the queen-cells were built first, and the eggs or larvæ deposited in them, the position of the eggs resembling that which I have described above; but as I said near the beginning, the cases are quite rare where either eggs or larvæ are removed from one cell to another, and three larvæ are removed to where one egg is removed; for the bees can get a queen more quickly from the larvæ than from the egg.

The usual way of working in a queenless colony to secure a queen is, to float the royal larva when chosen, out to near the end of the worker-cell in which it is, and when there, turn a queen-cell down over the ends of the cell. Nearly all writers tell us that the bees when made queenless tear down adjoining cells so as to build a queen-cell over the larva which they have selected for a queen; but this is not done once in one thousand times, according to my experience, and not then, unless the combs are new, not having any cocoons in them, or the selected larva is near a hole in the comb, or the edge thereof.

Borodino, N. Y.

GREAT BRITAIN.

No Honey Crop, and the Bees are Starving.

From the British Bee Journal
AUG. 30, 1888.

We think that the season of 1888 may be reckoned as the most disastrous that modern bee-keepers have ever experienced in the British Isles. Flowers have been plentiful, but when in bloom the weather prevented the bees leaving their hives, and also retarded the secretion of the necessary nectar in them. In consequence of this, many colonies at the present time are either starving or bordering on that condition.

Last week we "drove" (bumped) 7 colonies of bees in straw-skeps, the property of a cottager who, in other seasons, has averaged from 15 to 20 pounds of honey per colony. Although the hives were full to overflowing with bees—we took 4½ pounds of bees from one having a super on—the total amount of honey obtained from the 7 colonies was just a trifle over 3 pounds; one of them had commenced to succumb, hundreds lying dead on the floor-board.

The foregoing we take as almost a general average, in our district, of the condition of colonies left entirely to their own resources. At the present time, therefore, the question left for consideration is, will it pay to feed the colonies the quantity of stores necessary for their winter's consumption? With the frame-hive bee-keeper his answer, given we should think without a moment's consideration, will be "yes." Of this there cannot be two opinions, but with the cottager an outlay of (say) four shillings per colony is a consideration; yet it will pay him. Many of these poor folks have all their work cut out for them to make two ends meet with their present earnings, but to expend four shillings per colony, money down, to keep the bees alive, is an impossibility, and so the dying out of such colonies during the coming winter will be most calamitous.

Having satisfied ourselves that "feeding up" is now the only and most remunerative course to pursue, the next question to arise is, What to feed? There is such a variety of sugars on the market that the novice scarcely knows which to choose, and even when he does know the description of sugar, the form in which it is to be given to the bees is a stumbling-block. "Dry sugar feeding," says one; "syrup," says another; "candy," another; "Good candy," a fourth; "place the sugar in a dummy-board," advises a fifth; "No, don't; put it on top of the frames," chimes in a sixth. Well, between all these numerous words of advice he becomes bewildered, and gives the apparent enigma up in despair; and yet each of these advisers is giving sound advice in as far as the different requirements of a colony at a given time necessitate.

A little reflection on the part of the bee-keeper will prove to him that dry-sugar feeding alone during the coming season will be of no use whatever; the food given must be syrup—good, thick, cane-sugar syrup; no washy sugar-and-water—we might almost say, water and syrup. We have for some years tried dry-sugar feeding, and have found it in some cases very useful, but where a colony has little or no natural stores, it has invariably been a failure; times and times have we endeavored to rear condemned bees placed in fully-built combs upon dry sugar, but always failed. A colony at the commencement of winter having 6 or 7 pounds of stores, if fed on dry sugar will die out, or be of little use the next season, but where a colony has just a shortness of stores, barely enough to last it until the following spring, then dry sugar feeding will be invaluable, and so will candy, both ordinary and "Good."

Having then satisfied ourselves that for the present season, at least, syrup feeding is our only resource, it behooves us to consider what sugar to use, how to make the syrup, and how to feed. The first question is, perhaps, of the greatest importance, as the quality of—we cannot call it adulterated—unsuitable sugar for bee-feeding on the market is enormous.

Sugar at the present time is obtained commercially from a variety of vegetable substances; of course those yielding the greatest quantity are chosen before others, and as the beet-root yields 8 per cent. of cane-sugar, it is the principal (after the sugar-cane) vegetable requisitioned to supply the tea and breakfast table. Then again, cane (sugar-cane) sugars, when damaged, or of bad color, are after chemical treatment transformed into good colored and sound samples, and used for admixing with beet-sugar; this description of sugar can be mostly detected by the smell, by an adept by the sight, the chemicals used in the bleaching process, giving a most decided acid odor. The smell of beet-sugar to most people (for our own part, we should say to all people), is most nauseous, but when mixed with other sugars and refined, it loses to a great extent, but not entirely so, this unpleasant odor. Sugars of this description are known in the trade by the term "pieces." When feeding bees sugar should be avoided.

Any respectable grocer will give an applicant the information as to what is, or what is not "pieces." Loaf-sugar, best qualities, are almost free from beet, the best being "Tate's cubes" No. 1 quality, black brand. Martineau's cubes first quality; both of these are in hundredweight square, wood cases. Dutch crushed, sold now in large quantities for preserving purposes, is not to

be recommended, as frequently other than sugar-cane sugars are used in its manufacture. This sugar is packed in bags of about two hundredweight, mostly having a lead seal attached to the mouth of the bag. It is in irregular-shaped pieces of loaf-sugar, together with large quantities of the dust of the same; as its name denotes it is "crushed" loaf-sugar. Other descriptions of loaf-sugar we do not recommend.

Sugars Suited for Bee-Feeding.

We now come to a description of sugar which we have found eminently suited for bee-feeding, not only have we found it useful and suitable in this respect, but we never use any other description upon our table, as its clean sweetening properties are far before loaf and raw sugars. It is called "granulated." When this was first brought before the bee-keeping public, one manufacturer only produced it, Duncan; it then was known by the name of "Duncan's Pearl Sugar." This firm ceased refining, and certain manufacturers in America purchased the royalty, manufacturing and importing large quantities to England packed in barrels of about 238 pounds; unfortunately during the last few months no consignments of this sugar have been received in England. This sugar made a splendid, clear, thick syrup if half-a-pint of water was added to each pound of sugar, and made in the ordinary manner.

The foregoing sugar being now beyond our reach, we have found an excellent substitute for the same in granulated sugar manufactured by two firms, viz., Messrs. Geo. Crosfield & Co., of 6 Stanley Street, Liverpool (registered trade-mark C. in a diamond), and Messrs. Lyle, of Glasgow and London; both of these firms guarantee their granulated sugar as perfectly free from beet. These firms, being refiners, will not supply a private individual, but any respectable grocer will obtain the sugar for a consumer.

Raw sugars, such as Demerara, Barbadoes and Porto Rico, will make very good syrup, upon which the bees will successfully winter, but their color detracts from their merits, as such syrup will stain the combs; this, according to our experience, is the only objection. Demerara sugar is imitated by one firm who color a white crystallized sugar with some material (a trade secret); this sugar can easily be detected by placing a small quantity in the mouth. After sucking a short time, the remainder left in the mouth will be quite white, the act of sucking having removed the coloring matter, which is only superficial. As we do not know what the coloring matter is composed of, we object to its being used in the apiary.

Porto Rico sugar we find the most suitable for dry-sugar feeding, as it is very deliquescent; it also, for feeding on top of the frames, binds together with slight pressure, so forming itself into almost a solid cake. "Good" candy is made by mixing icing sugar with hot honey until of the consistency of putty; this is much too expensive, and on account of the same, suitable only for the food used in queens' traveling cages.

The answer then to the question, What sugar to use in making syrup? will be found to be granulated, guaranteed by the makers to be free from beet. How to make the syrup is answered also in the above paragraph, and will also be found in any modern manual on bee-keeping.

How to Feed Sugar to Bees.

How to feed is then the next question. The ordinary regulating bottle-feeder will be of little service this season; a fast-feeder must be used. There are plenty of these to choose from, and where expense is of little object, any of the boxes with numerous divisions, upon the principle of which most fast-feeders now are made, can be used, but there are other and cheaper methods of making a fast-feeder, the following one we frequently use:

Obtain a tin dish, having almost perpendicular sides; into this place a wood float almost fitting the dish, and having a number of holes, freely dispersed, bored through. We place this on top of the frames, after filling it with syrup, and under the quilts, allowing, by laying pieces of wood across the tin dish, the bees to work up over the edge and take the syrup down. It is not what we call a tidy way of doing it, but it answers as well as the most expensive feeder.

The dish is refilled through the hole in the quilt, and will hold about four pounds of syrup. The quilts must be tucked down snugly all around. A good colony with this feeder can be fed up in about ten days or less, if the weather is warm.

It is very noticeable that beet-sugar is objected to by most bee-keepers, and rightly so. Although beet-sugar is, chemically speaking, cane-sugar, it is vastly inferior in its saccharine properties to sugar made from the sugar-cane. If we place a quantity equal in bulk to what we usually find with sugar-cane sugar sufficient for sweetening a cup of tea, it will be found quite unsuited to our taste, necessitating a further addition of at least one-fourth the original bulk. Bees fed on the same do not winter in at all a satisfactory manner, therefore we think that a knowledge as to where to get a sugar free from beet will be of great service to our readers, and likewise a comfort to the bees through the rigors of the winter of 1888-89.

CALIFORNIA.

The Season and the Sources of Honey.

Written for the American Bee Journal

BY S. L. WATKINS.

The honey crop in El Dorado county, this year, was an average one, being about 50 pounds per colony. The weather has been extremely warm the past month, at Placerville the mercury standing at 100° to 105° almost every day in August. This hot weather and no honey coming in caused the bees to dwindle down rapidly. At the Placerville apiary I lost 40 colonies out of 82.

The Carniolan bees have done the best at Placerville. It is true that they dwindled down considerably, but nothing at all in comparison with the Italians, hybrids and blacks. I have not lost a single colony of Carniolan bees. They are the best bees to defend their hives against robber bees, of any that I have ever seen. Next season I shall keep nothing but Carniolan bees in the Placerville apiary.

I have two apiaries located 14 miles above Placerville in the mountains. At these apiaries all kinds of bees do well. I do not see much difference in regard to the amount of honey stored by each race—black bees do as well as the Italians.

Bees gather the spring crop from alders, willows, maples, dogwood, wild cherry and plum, California lilac, manzanita, chaparall, folocio, pennyroyal, etc. The fall crop is the largest and best, being gathered mostly from the incense cedar, which is a wonderful yielder of honey. The spring crop averages about 30 pounds per colony, and the fall crop sometimes averages 100 pounds per colony.

Bees do not begin to gather honey from the incense cedar until October, and it usually lasts about six weeks. The honey gathered from this source is the thickest that I have ever seen. The bees cap the cells with a snowy whiteness, which gives it a very beautiful appearance. The incense cedar is rich in both pollen and honey, a single tree furnishing enough pollen for the wants of a whole colony.

Placerville, Calif., Sept. 10, 1888.

NECTAR.

Do Bees Hear?—Swarming and Science.

Written for the American Bee Journal

BY G. W. DEMAREE.

There are many questions pertaining to bee-culture that are not directly of practical utility, but interesting nevertheless.

Have Bees the Sense of Hearing?

This is a matter, it seems to me, capable of demonstration. That bees do hear in some *sense* which answers to the sense in which other animals hear, I have every reason to believe. That bees pay no attention to the ordinary din and clash of the outer world about them, proves nothing at all, for the same is true, in a limited sense, with all living creatures.

My grounds are bounded on the one side by a railroad, and from 10 to 14 trains pass by every day. My stock graze in the pasture undisturbed—they rarely ever raise their heads when a train thunders by. The same is true with my bees—they work right along as though all was silent. But if I drop some young bees on the ground, they will find the entrance to the hive if they are in *hearing* distance of the bees at the entrance; if not, they will wan-

der about, crawl into some other hive, or perish in their lost condition.

Sometimes when hiving a swarm, I dip up a cupful of bees and pour them into the prepared hive; they immediately set up a loud "roar," and the swarm promptly *answer:* and they rush into the hive with that joyous hum which thrills the heart of the true lover of bees with joy, that is difficult to describe. Do you say that *vibration* guides the bees, and not *sound?* What is "sound" but an impression made on the *subject* by concussion or vibration of the atmosphere?

To say that sound is not the same thing identically to the insect that it is to animals of higher order, proves nothing, because it cannot be proven that sound is precisely the same thing to the lower animal that it is to the intellectual being. Bees *hear* in a sense which answers all their purposes, and this is all that can be said of other animals.

Selecting a Home before Swarming.

This is an old doctrine. It has age on its side. It had its origin away back in the ages of bat-eyed fogyism as pertains to bees. There is such a touching story here, about the sending out of "scouts" to locate a future home while the swarm waits with patience and hope. There are among these "scouts" some good Joshuas and Calebs—they will bring in a good report.

It is hopeless, perhaps, to try to be an educator along this line. Mr. Youngman, on page 567, publishes a case of "sending out scouts," which appears conclusive to him. But to me it is easy to see what attracted those bees which he took for scouts, "cleaning out a new home." The "chunks of propolis and fragments of comb" adhering to the hollow tree is what attracted the bees there. They were foraging for bee-glue, and doubtless they unwittingly answered as a decoy to the homeless swarm as it passed that way. I once saw a swarm enter an empty hive in my apiary, directed there by the same cause.

No evidence that will bear investigation has ever been published, to warrant the belief that bees locate and "clean up" a home in advance of their taking actual possession.

Honey is Not Digested Nectar.

Since writing the above items the BEE JOURNAL has come to hand, and Prof. Cook's reply to my article on page 568, has been noted. I am as much astonished, and grieved, at the Professor's reply, as he was surprised and pained because of my article. What have I said against "true science" that justifies the heated and spontaneous defense of Prof. Cook? No man has a higher appreciation for what "true ecience" has done for the "nineteenth century," than myself. But vagaries and absurd theories are not science. Against these (not true science) I hurl ridicule, because no other weapon can reach them. True science is not the child of one father nor of one "mother," hence the "base ingratitude" which so *stirs* the Professor is a thing of his imagination.

Yes, "there are more things in heaven and earth" than I ever dreamt of, and the remark is true when I apply it to my honored friend, Prof. Cook, or to any other living man; but I am pretty certain that no man can lift himself by the straps of his boots.

Our learned author says, "that honey is more or less perfectly—what words are these?—digested nectar is as certain as the world is round." This is at par with his dogmatic assertion that, "bees never hibernate." The one as well as the other rests alone on his *Ipse dixit.*

"That all honey is equally digested is very likely not true." Yes, I should think so; and it is a thousand times more safe—more in accordance with the evidence, with reason and common observation—to say that it is not *digested* at all in the meaning of that word when applied to the assimilation of food in the stomach.

I have before me a fancy little card, "Why Eat Honey," sent me by that shrewd and practical apiarist and honey-dealer, Chas. F. Muth. I quote from it as a sample of good commonsense:

"What is honey? It is a vegetable product, not made, but gathered from the nectary of flowers, where it is secreted according to the rules of Nature's laboratory." These commonsense words whet the appetite for honey, while Prof. Cook's "more or less perfectly digested" vomit makes every fiber of my being recoil.

I am not able to make the large reports of great yields of honey as some bee-keepers seem able to do—perhaps my locality will not admit of it; but I had one colony of bees to gather and finish up 300 pounds of the finest quality of honey in less than 30 days. The density of raw nectar varies so much that it is hard to say how many pounds or raw nectar that 300 pounds of standard honey would represent, but certainly not less than 600 pounds of freshly-gathered nectar. Now I say that it would be as impossible for a colony of bees to digest (assimilate) in their stomachs 600, or even 300, pounds of raw nectar in less than 30 days, as it would be for Prof. Cook to lift himself by the straps of his boots.

The presence of invert sugar in honey argues nothing. Chemical changes going on during the process of evaporation is sufficient to account for that.

Christiansburg, Ky.

BOTANICAL.

The Pollination and Perforation of Flowers.

From the Shaw School of Botany,

BY L. H. PAMMEL.

Last spring my attention was drawn to a rather large and conspicuous cluster of *Phlomis tuberosa* growing in the Botanic Garden. The species is a native of Europe, and has become sparingly naturalized in the United States. The pollination of this species seems not to have been studied, although we have an admirable account of the pollination of *Phlomis Russeliana* by Loew. Our species, although agreeing in some important particulars with the Syrian, differs in color and some other minor points.

The structure of the flower clusters is that common to many of the Labiates, in that the flowers are borne in cymose axillary clusters; but in this case the clusters are very dense, so that the flowers are not separated readily. The tubular calyx is 10-ribbed, and terminates rather abruptly in 5 awns.

A plant when in flower is very conspicuous not only from the purple color of the corollas, but also from the number of flowers open at the same time, as there are often as many as six or eight in one cyme; and on going to the flower at any time of the day, one could see several species of *Bombus* and a *Xylocopa* collecting nectar, besides other small Hymenoptera which principally collected pollen. The corolla is decidedly two-lipped. The upper lip arches over the lower, and is slightly notched.

At the time of pollination the upper lip lies close to the lower, so that a humble-bee, on entering the flower, must force the former back, when its thorax is dusted with pollen from the anther cells which lie among the rather numerous hairs in the arched upper lip. This lip readily returns to its former position on account of the elastically-hinged arrangement to be found on its posterior part close to the tube of the corolla. This arrangement is also described by Loew, as occurring in *Phlomis Russeliana*, and has been called by him "Charnier Gelank"....

Insects, attracted by the clusters of bright purple flowers, find a landing-place on the lower lip of the corolla, and experience no trouble in finding the nectar, as there is a well marked groove in the middle and larger lobe of this lip, which diminishes in size downward till the nectary is reached, where it disappears. In addition to this groove there are some nectar marks: two on the middle lobe (one on each side of the groove), add one on each of the lateral lobes. These nectar marks are colored somewhat deeper than the rest of the corolla, and run to the groove, where they disappear.

There is an abundance of nectar, secreted from the well-developed nectar-gland situated immediately underneath the pistil, in the form of a fleshy outgrowth arising from the receptacle. This gland is usually somewhat angled, sending up one lobe between each of the lobes of the ovary....The nectary occupies the lower part of the tube of the corolla, which is considerably enlarged above the nectary; this enlargement is not peculiar to this plant, but is also to be found in others. There is developed at this enlargement a ring of rather stiff hairs, which excludes small insects. The occurrence of a ring of hairs above the nectary is also common to other Labiates....

Pollination by Humble-Bees.

The flowers of *Phlomis tuberosa* are adapted to pollination by humble-bees, as has been shown, by the elastically hinged arrangement in the upper lip,

and the length of the tube of the corolla. Several of our species of *Bombus* must be able to do efficient work in their cross-pollination, as the measurements of their tongues indicate. Mr. Robertson, who has kindly identified the insects I sent him, gives me the following measurements:

The tongue of a female of *Bombus separatus* measured 11 mm., while that of *B. Pennsylvanicus* was 16 mm. long. I frequently saw a large species of *Bombus*, probably *B. Pennsylvanicus*, which entered the flowers in a normal way, and most of the flowers were pollinated by this insect. Besides this there was one other humble-bee, a worker of *B. vagans* (?), which visited the flowers, but mostly those which had previously been used by *B. Pennsylvanicus*. The tongue of this insect measured 6.5 mm., so that it was hardly long enough to reach the nectar, and I doubt whether the insect is strong enough to push the upper lip back; as it regularly visited the older flowers, no doubt it may be of service to the plant.

Anthophora and *Melissodes*, which have longer tongues than those of *Bombus Pennsylvanicus*, are frequent visitors to flowers with deep seated nectar, but they were not noticed on *Phlomis;* on the other hand *Xylocopa Virginica* made perforations and used them exclusively.

The two species of *Phlomis* are much alike in the awn-pointed lobes of the calyx, the hinged arrangement in the upper lip, and the compactness of the flower-cluster. The flowers of *Ph. Russeliana* are somewhat larger, and are therefore adapted only to long-tongued insects, since the tube of the corolla is 22.22 mm. long. But the tube of *Ph. tuberosa* is only 10 mm. long, so that it is adapted to a much larger range of insects. Accordingly Loew found *Ph. Russeliana* visited in the Berlin Botanic Garden only by *Bombus hortorum*, and he says that *Anthophora pilipes* is the only other insect in North Germany which can do adequate service in its pollination.

In both of these species there is a beautiful contrivance for securing cross-pollination. But while the Syrian, according to Loew, is proof against such depredators as *Bombus terrestris*, which perforates many European flowers in order to get at their nectar, *Ph. tuberosa* is not proof against these unwelcomed visitors. Notwithstanding that *Xylocopa* has a tongue of 7-5 mm., and can therefore get at a portion of the nectar in a normal way, it chooses rather to perforate the flowers, the awn-pointed calyx lobes offering no resistance.

The Colors of Flower Species.

But I think the most striking difference between the species is in color, and as this is such an interesting biological fact, I will summarize what Hermann Muller says about it in his classical work "Die Befruchtung der Alpenblumen:"

Not only have Hymenoptera been most active in the development of such peculiar contrivances as the bell-shaped corollas of Convallarias, Campanulas, and Gentians; the funnel-shaped corollas of Rhododendrons and Echiums; the tubular corollas of Lonicéras; the closed corollas of Linarias and Antirrhinums; the spurred flowers of Aquilegias and Aconitums: the labiate flowers of Lamiums, Salvias, Melampyrum, and Pedicularis; the inverted flowers with small openings of Arctostaphylos and Vaccinium; and the papilionaceous flowers of Trifolium and Robinia;—but they have also influenced the colors of flowers in a most marked degree. Flowers adapted to a large range of insects, like those of *Compositæ, Saxifragæ, Valerianaceæ, Potentilla*, and *Ranunculus*, are usually yellow or white. But in such highly modified flowers as Lamiums, Salvias, Delphiniums, Aconitums, and Aquilegias, the colors are generally violet, blue, pink, or purple. In these and other genera a change seems to have stepped in, especially where flowers have the same structure and are pollinated by the same class of insects.

Our species of *Monarda* show this color-range beautifully....In Labiates the prevailing colors are blue, rose, lilac, and purple; seldom yellow or white. *Lamium album, however*, is white, while *L. maculatum* is red. *Phlomis tuberosa* is purple, *Ph. Russeliana* is yellow. *Salvia glutinosa* is yellow, *S. pratensis* blue. Why should we have changes in color of such closely related species?

Slight changes in color must therefore be of great use to an insect, just as changes in color of parts of a flower after pollination are of use to the insect by indicating that its services are no longer needed. Muller believes that the changes in color, in closely allied species, have been produced for reasons of this kind.

The Perforation of Flowers.

The perforation of flowers by insects, and in a few cases by birds, to get at the nectar by fraudulent means, is a matter of common observation; but in a few cases this is the normal way of procedure, as has been shown by Darwin and Muller, for insects are obliged to perforate the lax inner membrane of some orchids (nearly all of the British Ophreæ according to Darwin) in order to get the nectar which lies within their tissues; and in the case of *Laburnum*, etc., Muller has shown that insects puncture the thickened bases of the standard petal in order to get nectar. I ought also to call attention to the destructive work of species of *Megachile*, which cut out parts of the petals of roses, pelargoniums, etc., and use them to line their nests.

A century ago, Sprengel noticed that flowers were perforated. Since his time many European as well as American observers have noticed perforations. Among them I may mention Darwin, Delpino, Ogle, Kerner, Loew, and Hermann Muller. To Loew, and especially Muller, are we greatly indebted for painstaking labor in giving lists of flowers and their visitors, and, with the exception of these and a few by other investigators, we have no statistical tables on the pollination of flowers and their insect visitors, so that we have little accurate information as to what insects perforate flowers.

It is of value to know not only that a given flower is perforated, but also what relation the insect bears to the flower which it perforates. It is, indeed, interesting to follow out these relations from Muller's tables....

Darwin, in his "Cross and Self-Fertilization," etc., states that out of many hundred specimens of red clover examined by him, nearly all were perforated, and he has even seen whole fields in the same condition. Thos. Belt and others have noticed the same thing. It is quite as common for red clover to be perforated in this country as it is in Europe....

Italian Bees and the Red Clover.

In the summer of 1883, in the vicinity of La Crosse, Wis., I noticed large numbers of honey-bees on the flowers of red clover, and wondered whether they made perforations, or what they were doing. In some cases they obtained pollen, but in a vast majority of cases nectar was collected through perforations made by some other insect. Among bee-keepers there is a notion that the Italian bee is able to get nectar from red clover. I doubt whether this is true, for in my experience I never found them collecting nectar in the normal way; they seemed to collect only through perforations made by some other insect.

One thing will show, in part at least, why honey-bees go to the red clover at certain times and not on other occasions. It is a well-known fact that the amount of nectar secreted by a plant varies according to season and locality. There are periods, as I have had occasion repeatedly to observe, when hive-bees cannot collect enough to supply their young, and they then freely use the perforations made by *Bombus* and other insects; but when there is an abundance of nectar they pass over fields of red clover, and when *Monarda punctata* is in flower, and has a good supply of nectar, they will pass over fields of white clover, and fly some distance to fields of wild bergamot.

Although the rule seems to be that honey-bees do not perforate flowers, there seems to be exceptions, for no less an authority than Hermann Muller states that they perforate the flowers of *Erica tetralix*, using their mandibles to bite holes in the tube of the corolla. The tongue of the honey-bee is only 6 mm. long, so that it is not able to get the nectar otherwise in these early flowers. Later he found honey-bees collecting nectar in the normal way, but he failed to observe whether these late flowers were smaller or not....

It is not always an easy matter to tell whether an insect makes the perforations, especially when these are in the form of longitudinal slits, or whether it is merely looking for the perforations of some other insect. In flowers where the tissue is firm, these slits close over quite effectively, and are not readily seen. While the honey-bee makes, at most, few perforations, Muller records many cases in which it uses perforations made by other insects; but it is sufficient here to refer to his works for these.

In this country, Meehan believes that the honey-bee perforates the flowers of Salvia Splendens. Delpino, Comes, and a few other observers, also state that the honey-bee perforates corollas. I think, however, that generally honey-bees only use the perforations made by other insects, and they are certainly quick to perceive these perforations. Muller records the most interesting case of Salvia Sclarea, in which the tube of the corolla is so long that the honey-bee is not able to get the nectar in a normal way. It made several attempts, but did not try to perforate the corollas. When, finally, it found

several in which the corollas had just loosened, it immediately began to sip the little drops of nectar which still remained attached to the base of the corolla. It is certainly a clear case, for the insect tried in every way to get nectar, except by perforating the corolla.

The examples of flowers perforated by *Bombus terrestris* show that it mainly pierces those from which it cannot get nectar in a normal way. Muller has found this interesting difference between its visits to flowers on the plains and valleys, and to those of alpine and sub-alpine regions; that while in the lower regions it perforates many flowers where the nectar is in part accessible to it....others are visited in a normal way in alpine regions.

Muller also found a constant difference in the length of its tongue. In the Alps its tongue was usually 8-11 mm. long, while in the lowlands only 7-9 mm. long. *Bombus terrestris* is one of the most abundant of European humble-bees, and this is perhaps one reason why it uses these illegal means to get nectar. But *B. mastrucatus*, as Muller's investigation shows, is the worst enemy to alpine flowers. Notwithstanding that its tongue is of sufficient length to enable it to reach the nectar of some flowers....it perforates them, and only pollinates such flowers as....it could not well perforate unless it were to go to more trouble than getting the nectar in a normal way involves....

Carpenter Bees and Flowers.

The Carpenter bees, belonging to the genus *Xylocopa*, do considerable injury to flowers in more southern latitudes, where they abound.

Xylocopa Virginica, according to Cresson, is found in the middle, southern and western States, and of the 27 species of this genus mentioned in his catalogue, this is the most northern, and has the widest distribution. The species no doubt causes considerable annoyance, as Mann, Ryder, and Miss Murtdfeldt have shown. Mr. Mann was the first to describe one method which it uses to perforate flowers, in which "the insect applies its sharp and wedge-shaped maxillæ to the grooved surface of the tube, and splits this open 3 or 4 mm. from the base."

Dr. Schneck and Mr. Van Ingen each record several cases in which the tube of the corolla had longitudinal slits, but as perforators they found humble-bees (*Bombus?*). As these slits correspond so well to the slits I found on the tube of the corolla of Phlomis, I bring them up in this connection. I frequently found this Xylocopa in the act of making longitudinal slits in the tube of the corolla of Phlomis tuberosa. The insect applies its powerful mandibles against the tube of the corolla until it gains entrance, then, thrusting its maxillæ in as far as it can in a longitudinal direction, the tissue yields easily, so that longitudinal slits are the result. At other times the mandibles are drawn backward and forward, thus causing longitudinal slits. The number of slits varied from one to three. The insect did not take much trouble to find the old slits, but went directly at making new ones, as it seemed to be easier for it to do this than to waste time in looking for the old ones.

Wasps Perforating Flowers.

Wasps also perforate flowers, especially such as are adapted to this class of insects....Mr. Robertson has reported to me several interesting cases where wasps use perforations, and, at least in one instance, make them. At Orlando, Fla., he found five species of wasps, which sucked the flowers through perforations, which are at first very small, but finally large and irregular. At Clinton, Mo., he observed that Odynerus Foraminatus made perforations in the tube of the corolla of Monarda Bradburiana, which, as he thinks, were made by the wasp taking the tube between her jaws and cutting towards the mouth of the corolla, thus loosening a triangular piece which could be closed over the opening. In the Botanic Garden I frequently found the flowers of this species perforated, but the perforations were in the form of longitudinal slits.

While wasps do not generally perforate flowers, they are not above using those perforated by species of Bombus and other insects; for these, in their rapid visits to flowers, are certain to leave some nectar. Insects much lower in the scale than wasps, frequently use the perforations made by species of Bombus, as Muller has shown to be the case in a small Ichneumon fly which eagerly sought the nectar left in the flowers....

Ants and Beetles Gathering Honey.

Ants are especially fond of saccharine matter, and are frequent visitors to flowers, but only for nectar. Their visits are entirely injurious to the plant. They frequently gnaw parts of the flowers, and make irregular holes, thus gaining an entrance, or they use the perforations made by other insects.

Beetles, although not high in the scale of development, and certainly low as far as the adaptation of flowers and their pollination is concerned, show, in a few cases, some ingenuity in getting at nectar, as Muller found to be the case with Cetonia Aurata, which feeds on delicate parts of various flowers, is especially fond of nectar, and was found on the flowers of Convallaria Polygonatum eating its way from the top of the perianth to where the nectar is found at the base of the pistil, where it began to feed on the nectar-secreting gland until the wall of the ovary was reached, when it left the flower.

The acute observer Sprengel found that large numbers of the flowers of Symphytum Officinale were perforated by one of the flower-beetles, and that ants used these perforations. Mr. B. M. Vaughn, who found the flowers of Corydalis Aurea perforated at Madison, Wis., is of the opinion that these perforations were made by one of the flower-beetles.

Birds that Perforate Flowers.

It is not strange that birds should at times perforate flowers, since so many flowers are well adapted to pollination by them. Prof. Trelease mentions that, according to Prof. W. A. Henry, the humming-bird probably perforated the flowers of Tecome Radicans. Dr. Schneck and George Sprang have found these perforated, but the latter found ants gnawing through the corolla. In the Botanic Garden there was hardly a single fully opened flower of this species which did not have a few slits.

Prof. Beal reports that Mr. Hollingsworth found the flowers of Fuchsia pierced through at the base of the calyx-tube and robbed of their nectar. Mr. Robertson writes me that he has seen the humming-bird force its bill into a flower-bud, so that the lobes of the corolla had not been separated, but merely cut through. Prof. Beal watched carefully for two seasons the flowers of the Missouri Currant, seeing large numbers of bees collecting nectar from holes made in the calyx-tube; yet, after careful examination, he has never seen honey-bees make these holes, but several times noticed the Baltimore oriole passing over the bushes and giving each of the fresh flowers a prick with the tip of its beak. No other bird having been seen doing this, he concluded that it is the work of the Baltimore oriole, while the honey-bee takes the gleanings after the oriole.

How Flowers are Perforated.

I have alluded to the manner in which Xylocopa makes perforations; I must also describe how this is done by Bombus and Apis:

The mouth-parts are somewhat complex: the mandibles or upper jaws are developed for the purpose of biting; the maxillæ and labium are brought into use when the bee takes a liquid into its pharynx. The maxillæ are situated on each side of the labium, and consist of a flattened stipe at the base, then the rudimentary maxillary palpi, and from the stipe projects the triangular and deeply grooved lacinia. When the maxillæ are brought close together, a tube is formed which opens into the pharynx. The labium or lower lip consists of a central portion and two pairs of appendages, the paraglossæ and labial palpi. The central portion of the labium is divided into a basal portion, the mentum and a terminal portion, the ligula. "The mentum is hinged to the submentum, which in turn is hinged to the maxillæ by two chitinous rods." The labial palpi are deeply grooved, and when brought together form a tube.

In flying from flower to flower the insect carries its sucking apparatus stretched forward so that it is enabled to put it directly into the flower. The mouth-parts of the bee are held in a similar way when the tender cellular tissue is pierced with the tips of its maxillæ. While many humble-bees are addicted to boring the tubes of corollas, they also resort to bitting the tissues of the flowers by the aid of their mandibles.

Fertility of Perforated Flowers.

The opinion is current that perforated flowers are not as productive as unperforated ones. Delpino has shown that some perforated flowers are absolutely sterile. Ogle states that many

flowers of Phaseolus multiflorus fail to produce seed because of perforations.

I doubt whether there are many flowers in which one can find more perforations than in Symphytum Officinale. In stocks which have several thousand flowers, hardly one can be found which is not perforated. Several stocks in the Botanic Garden gave me ample opportunity of seeing the results from perforated flowers. I did not undertake to count the ripened fruits, but the greater number of flowers developed some nutlets. At this time I had not seen Loew's experiments on this plant. His results are so striking and conclusive that I give them somewhat in detail:

On the 11th of June, 1885, he took several branches which had passed anthesis. On these he had 73 flowers, and was careful to remove later flowers; on the 4th of August, 46 flowers were dry, while the remaining 27 flowers had matured 51 nutlets, so that 37 per cent. of the flowers were more or less fertile.

The full fertility of many plants, as Darwin has shown, depends largely upon cross-pollination. Insects do not commonly visit flowers unless they get nectar or pollen in return, so that, when a flower is constantly robbed, the regular pollinators do not receive their due share of nectar or pollen, their visits are fewer, and consequently there is less chance for cross-pollination. If the plant is capable of self-pollination, seeds may be developed, and often in great abundance, yet Darwin has shown that the progeny of self-fertilized flowers is less vigorous than from cross-fertilized flowers.

If the structure of a flower is such that self-fertilization is prevented, and insects do not go to it in the regular way, sterility may result. But in most of the flowers perforated there is an abundance of nectar, and insects which perforate flowers are very hasty in their visits, and therefore always leave some nectar, as can be seen in many cases where the perforator first robs the flowers, after which numerous other insects use the perforations to get nectar, while others again visit the flowers in a normal way. On the whole, I am inclined to think that sterility results more from the disharmonic action of perforating insects than is usually supposed....

Insects certainly show considerable intelligence in making perforations, or using those made by other insects. One of the most remarkable cases is that observed by Francis Darwin, in a cultivated variety of the everlasting pea, where the nectar is enclosed within a tube formed by the united stamens, at the base of which are two natural openings, one on each side, the left being a little the larger. Humble-bees which bite holes through the standard petal, always operated on the left-hand side, so as to reach the larger passage....

Muller records an interesting case where a female of Bombus terrestris entered a flower of Vicia Faba in the normal way. Being unable to get the nectar, the insect forced its head under the banner, and stretched its tongue as much as possible, but, being still unable to reach the nectar, it withdrew its head from the flower, and after cleaning its tongue with its forelegs, flew to another flower, where the same performances were repeated; but in the fourth she bit a hole in the corolla above the calyx....

Humble-bees show preferences in the flowers they perforate. Dr. Wm. Ogle states that in Switzerland he collected 100 flower-stems of a blue variety of Aconitum Napellus without finding a single flower perforated, while on 100 stems of the white variety, growing near by, every one of the open flowers had been perforated. This difference, Darwin thinks, may be due to different amounts of acrid matter contained in the flowers, the blue variety being distasteful to bees....

Why should insects perforate flowers? Darwin believes that, as a general rule, flowers are only perforated when they grow in large quantities close together ....Flowers grown in large masses are conspicuous, and therefore attract many insects; and, as the perforated flowers usually contain considerable nectar, the number of insects visiting the flowers at any one time is very large, and, as Darwin has shown, some of the nectaries are sucked dry; now, in order to save time, for the flowers would have to be probed for their nectar, the insect makes perforations. To this rule there are exceptions, as has been shown in some of the cases cited, where an insect, unable to get the nectar in a normal way, takes to perforating flowers. Muller, Loew, and others, have shown that there is a certain correlation between the length of the tongues of Hymenoptera and the flowers they perforate, as can be seen by consulting their tables on flowers and their visitors....

To summarize:—It has been shown that flowers with deep-seated nectar are often perforated, and that in most cases the perforations are made by insects which are unable to get at the nectar in a normal way; that Bombus mastrucatus is more addicted to this habit than any other European humble-bee; that there is a certain correlation in the length of the tongues of Apidæ and the flowers they visit in a normal way, but when this limit is reached, flowers are often perforated; that conspicuousness of plants may account for some of the perforations, but most of them are attributable to the non-adaptability of the insect to the flower; that the insect uses considerable ingenuity in perforating flowers, attacking them in close proximity to the nectary; that this is individual experience, and not inheritance on the part of insects; and that perforated flowers are not necessarily sterile, but are often quite productive.

St. Louis, Mo.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

HONEY PRICES.

Criticisms on the Quotations of Commission Men.

Written for the American Bee Journal

BY C. F. MUTH & SON.

The Editor has kindly sent us the letter of a correspondent to answer, to which we have no objectious whatever, as the question has been asked us many times. The correspondent says:

"I would like to see an explanation of the quotations given in the AMERICAN BEE JOURNAL. For instance, Messrs. Muth & Son quote extracted honey at 5 to 8 cents per pound; but upon writing to them, they sent quotations asking about 10 to 12 cents for extracted clover honey. Now, why do they not quote correctly, 5 to 12 cents per pound? I do not mean Messrs. Muth & Son alone, but simply suppose it were they, or any other commission house. Why do they do it?"

Our quotations in the AMERICAN BEE JOURNAL and other bee-papers quote extracted honey at 5 to 8 cents on arrival. This means that we buy honey at that range; *i. e.*, good standard qualities, for which we have a pretty steady demand. Those quotations are known to our customers as, L L (a certain grade of Southern honey), fall honey, basswood, mangrove, clover and belle-flower honey, the last being from Cuba. It has a peculiar flavor of its own, but is a nice article, and having sold about 40,000 pounds since last spring, we believe to have created a demand for it. When re-ordering, the majority of our customers call for honey by the above names.

The above are our buying prices, but they do not hinder us from buying occasionally at 4 cents a pound, or even for less; or at 9 cents a pound, as the case may be. Our range of prices is from 5 to 12 cents a pound when selling. It would not have been proper to say, from 5 to 15 cents, although we do sell a single pound of the best clover honey at 15 cents, ½ pound at 8 cents. Our conscience does not trouble us any when we sell to one party a pound of honey at 15 cents, to another a barrel of the same quality at the rate of 10 cents, or five barrels at 9 cents a pound; and to another party 50 pounds in a tin can and crate for $7.00. We make no secret of our prices, because we prefer, at any time, to sell a barrel of honey instead of a pound. Most of our customers are manufacturers or dealers, and unless we give them a margin, we cannot expect to make the sale. It is our business to sell, and we are sorry to refuse the purchase of a lot because our stock on hand is too large. At our farm we have one class of customers only, and one price for all. There we do as other producers do, or should do, and dispose of all we can.

Cincinnati, O.

[The quotation of a certain sum "on arrival," is understood to mean that the persons so quoting it, pay that amount *on arrival*, and take all that arrives. That phrase is misunderstood, and should not be used, for Brother Muth has no intention of conveying that idea.

Of course the prices quoted in our Honey and Beeswax Market must be understood to indicate the prices that honey brings for the producer—not the prices at which the dealers sell it at retail.—ED.]

Scatter the Leaflets.—Look at the list (with prices) on the second page.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

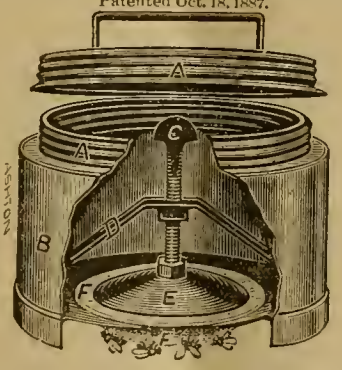
Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Hastings' Perfection Feeder.—This Feeder (illustrated) will hold 2 quarts, and the letting down of the feed is regulated



by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c. R. A. BURNETT,
Sep. 12. 161 South Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—Fancy white 1-lbs., 17@18c.; off grades, 15@16c. Fancy white 2-lbs., 13@14c.; off grades, 12c. Extracted, white, 7½@8c. New crop is arriving and demand is good.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Sep. 5. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@15c.; 2-lbs., 11 to 14 cts.; amber, 7@9c. Extracted, white, 5½@6c.; light amber, 5@5½c.; amber and candied, 4½@4¾c. Receipts light and market firm for best qualities.
BEESWAX.—17@21c.
Aug. 25. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best new white comb, 15@16c., with little in sight and slow sales. Market is low, and beekeepers will do better to hold honey until approach of cold weather.
BEESWAX.—21@22c. Supply limited.
Aug. 22. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 4½@8c. per lb. Comb honey, 12@16c. Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Sep. 18. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices firm, and stock light.
BEESWAX.—None in market.
Aug. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14½@15½c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½.
Sep. 13. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: New 1-lb. sections, 18@20c.; 2-lbs., 14@16c. New extracted, 8@10c.
BEESWAX.—25 cts. per lb
Aug. 24. BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 5½ cents; light, 5¼c.; amber, 4½@5c. Comb, 1-lbs., 12@14c.; 2-lbs., 9@13c., as to quality. Arrivals not large, and supplies held firmly.
BEESWAX.—Dull at 19@22c.
Aug. 20. SCHACHT & LEMCKE, 122-124 Davis St.

KANSAS CITY.

HONEY.—We quote: New white 1-lbs., 18c.; light 1-lbs., 16c. California white 1-lbs., 18c.; light 1-lbs., 16c.; white 2-lbs., 16c.; light 2-lbs., 14c. Extracted, white, 8c.; amber, 7c.
BEESWAX.—18@20c.
Sep. 5. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, 4½@5½c.; if in cans, 8@9c. White clover comb, 14@15c. Market is steady and receipts light.
BEESWAX.—21c. for prime.
Sep. 6. D. G. TUTT & CO., Commercial St.

MILWAUKEE.

HONEY.—New white 1-lb. sections 18c., and very fine, 20c.; 1-lbs. 15@18c.; old 2 and 3 lbs., not salable, 12½@14c.; dark 1-lbs., old or new, 12@13c. Extracted, new white in kegs and ½-barrels, 8@9c.; old, in same packages, 7@8c.; in tin, 8@9c.; dark in barrels or ½-barrels, 6@6½c. Arrivals of new crop small; demand not urgent, and only very moderate trade.
BEESWAX.—22@25c.
Aug. 31. A. V. BISHOP, 142 W. Water St.

Conventions.—The time for holding Bee-Keepers' Conventions has now arrived, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25. It also contains a lot of blank leaves on which you can note important matters as they come up. Do not fail to send for a copy of it.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

We Have some copies of the old edition of Cook's Manual left, which we will sell at the old price, $1.25. The price of the new edition is $1.50 per copy; a notice of which may be found on page 579.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Queens.—We can mail a Tested Italian Queen (bred for the best results as well as for beauty) for $2.00; Untested Queens $1.00 each, or $9.00 per dozen. Orders solicited.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

The Institution which has done so much to foster art in America, "The National Academy of Design," has its history well told by A. S. Southworth, in the opening article of *Frank Leslie's Popular Monthly* for October. It is illustrated with views of the building, and portraits of its Presidents. The stories and adventures in the number are all attractive and well illustrated, and some, like "Venezuela and Great Britain," by Almont Barnes, of no little value.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Advertisements.

Pure Italian Bees,

ONLY $3.00 per Colony QUEENS, $1.00.
Address, S. F. REED,
39A3t NORTH DORCHESTER, N. H.
Mention the American Bee Journal.

Jones' Frame Pliers.

FOR taking frames out of hives, or moving them in any way desired. It is made of Japanned iron, and can be utilized in many ways. It has a long claw for loosening frames, and a hook which may be used for carrying other frames besides the one held by the Pliers. Price, 40 cents., by mail. By express, 30 cents.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

The Bee-Keepers' Review

FOR SEPTEMBER is specially devoted to "Food and Its Relation to the Wintering of Bees." If you wish to know the views of Mr. Heddon, J. H. Martin, Dr. C. C. Miller, L. Stachelhausen, Dr. L. C. Whiting, R. L. Taylor, and O. O. Poppleton, read this Number.

Price of the REVIEW, 50 cents a year. Samples free. Back Numbers can be furnished.

The Production of Comb Honey,

A neat little Book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken, either U. S. or Canadian.

Address, W. Z. HUTCHINSON,
39Dtf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

We have some ELEGANT RIBBON BADGES, having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison Street, - CHICAGO, ILLS.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Oct. 3, 1888. No. 40.

EDITORIAL BUZZINGS.

The "North American" Convention will be in session by the time this paper is in the hands of its readers. We expect to give a report of the proceedings in our next issue.

We Regret to learn that Mr. W. Z. Hutchinson has been "on the sick list" again. He is now improving, however, and hopes to have fully recovered in a few days.

The Appeal of the Arkadelphia case is to come before the Supreme Court at Little Rock, Ark., this month. The Hon. S. W. Williams has the case in charge for the Union, and we confidently hope that it will sustain the verdict of the lower court, and declare that the pursuit of bee-keeping is *not a nuisance*. Thousands anxiously await the result of the trial.

Dr. Morrison, of Oxford, Pa., was very successful at the late Pennsylvania State Fair, in his competition in the Apiarian Department, having secured five first prizes on his bees. First on Carniolan and Italian bees, and on queens, queen-rearing and queen-cells.

The Wintering of Bees is the most important subject now before us—it is thoroughly a seasonable topic, because a plan must be decided upon and put into practice in a very short time. We advise every bee-keeper to read carefully the article on pages 647 and 648, written by Mr. G. R. Pierce, entitled, "The Result of Experiments Made to Discover the Cause of Bee-Diarrhea." Its careful perusal will pay for the time devoted to it, even though you may not agree with all its conclusions.

Pleurisy Root.—Mr. James Heddon, on page 600, mentions the fact that this plant had "shared the fate" of the clover and buckwheat of this season, at least to a certain extent. Now in *Gleanings* we find, as a later report, the following, stating that it has yielded better than any other plant:

This year the pleurisy plant is the best honey yielder of them all. It has spread until there is no dearth and robbing, when basswood closes. We see that the quality of the honey is excellent, and the color about the same as white clover. It is standing full of seeds this season, and we believe that in the near future, it will be the best surplus honey-producing plant we have in this locality, basswood and clover not excepted.

A Change of Time for the payment of dues and the election of officers of the National Bee-Keepers' Union was proposed on page 579. It was thought that it would be a much better time to have it come in January instead of July, and as we have several cases on hand with a call for money to carry them to a successful issue, it was further proposed that the next annual dues be called for next January, for the year 1889. Several have voted, and all so far have been in favor of the change. Let every member of the Union send a postal card to the Manager, and say whether he favors the change or not. Be free to vote, and *vote at once*.

If you Have Surplus Honey ready to take off from the hive, do so at once. Honey is much better looking when just completed than it will ever be after. By leaving it on the hive the bees thicken the cappings, and by traveling over the dark brood-combs and then over the honey, it becomes soiled, and has a darker appearance. The propolis nuisance should also be remembered. The sooner the honey is removed the less of this will there be to scrape off from the sections.—*Colman's Rural.*

At the Indiana State Fair Mr. G. K. Hubbard captured all the premiums but one; the exception being that of a collection of honey plants, which was awarded to Mr. J. S. Russell, of Zionsville, Ind. Mr. Hubbard took the other eight premiums as follows: On queens, apiarian supplies; comb foundation for brood-chamber and surplus, honey and wax extractors, sections, and crates for honey. By the report we should think that no honey was exhibited.

When we Consider that pure honey is the very essence of flowers and plants, in which, we are told, there is a remedy for every disease, surely we cannot doubt the happy combination of honey as medicine. The Scripture tells us, in many passages, of the wonderful efficacy of honey as food and medicine. As the treatment of disease becomes more and more rational so will the value of honey as a medicine become more and more apparent.—*Exchange.*

Uncle Sam's National Flower.—Upon the selection of this, the Lewiston, Maine, *Journal* remarks as follows:

What shall be the National flower of the United States? This question was first brought before the public at the recent session of the Society of American Florists in New York. Some one proposes that the golden-rod shall be the chosen emblem of nationality. The claims made for this flower are that it is national in the wide range of its growth, accommodating itself to almost any circumstances, in the pasture, in the meadow, in the roadside, or by the stream.

Mr. Turner's "Outline Studies in the History of the Northwest," (Charles H. Kerr & Co., Chicago), is a timely publication in this anniversary year of the settlement of the Northwest. It is prepared for the uses of study clubs, and arranged to occupy fifteen meetings, each meeting being devoted to a particular division of the study, and three special topics being provided for each. Mailed to any address for 10 cents by the publishers.

Reproduction in the Honey Bee is the title of a pamphlet just received. It is an address delivered before the Pennsylvania State Board of Agriculture, by Prof. G. G Groff, acting President of the Bucknell University, and apiarist of the State Board of Agriculture. It is a very interesting address, and we shall copy a portion of it as soon as we can find room for it.

Nature's Way.—This is the title of a 15-cent pamphlet entitled, "G. M. Doolittle's Method of Rearing Queens"—which is called "The nearest approach to Nature's way yet devised." It describes his method, and points out its advantages. For sale at this office.

Wax is a substance secreted by the bees, and is analogous to the fat of higher animals. To produce a single pound of wax, bees must consume from 15 to 20 pounds of honey. The expensive substance is used by the thrifty little insects with the greatest economy. The thickness of the cell-walls in a new comb is said to be only 1-180th of an inch.—*The Millstone.*

Saved by Bees.—An exchange says: "Once when the Turks had begun to scale the wall of a church in Transylvania, a girl's wit saved the people from capture and death. Behind the church was a little garden, and in it a dozen bee-hives which it was the girl's duty to care for. Seizing a hive she ran up on the fortress wall and hurled it down among the enemy. Again and again she repeated the process until ten or more swarms of maddened bees were stinging the Turks. They were blinded and dismayed, and, unable to cope with the insect foe, beat a hasty retreat. They had been disconfited by a girl's device."

GLEANS OF NEWS.

That Silver Lining to the clouds which have hung like a pall over the pursuit of bee-keeping for the past few years, is thus commented upon in last week's *Prairie Farmer* by Mrs. L. Harrison :

Bee-stock has been below par for a couple of years, but, as every cloud has a silver lining, let all engaged in the fascinating pursuit, keep up their courage, hoping for a prosperous season in the near future. There is one happy coincidence, however, to console us over the flabby condition of our purses, that if we have no honey to sell to fill them up, bees generally winter well after a poor season. The queen has plenty of room to deposit eggs, and vigorous young bees to act as nurses, for they have no secreting of wax or building of comb to attend to. When there is an abundance of honey, all hands are pressed into service, and the queen is neglected, so that when the season closes the bees are mostly old, with little vitality to withstand the winter's cold ; then we hear of diarrhea, spring-dwindling, and kindred ills ; but now our colonies are strong, with queens doing their level best, and at the approach of cold weather will be full of vigorous workers, hardy as a nut.

Cross bees at this season ! Yes, indeed ; some of them are hot as a streak of lightning. The best way is to feed them a little for a few days, before disturbing them, especially if they have no unsealed honey. A well-fed colony is as good-natured as a fat alderman after dinner, but paupers are very different.

Feeding Back.—This' is relied upon by the cranks, who persist in claiming that comb honey is adulterated, to prove their point. We have repeatedly asserted that such is not practiced to any extent—is not profitable—and therefore does not in the slightest degree uphold or sustain the assertion of Wiley, Evans & Co.—still they repeat the story over and over again. The last issue of the *Rural Canadian* contains this corroboration of our statement :

Mr. S. T. Pettit, for two years President of the Ontario Bee-Keepers' Association, says that a few years ago some one gave a plan of securing lots of comb honey by the use of the extractor ; throwing out the nectar green, as fast as it came in, thus exciting the bees to gather all they possibly could, and then when the honey season was past, just feeding it back, thus securing big crops of comb honey. Well, the plan looked reasonable on paper, but in actual practice it looks very different to me. Of course, I waited until the gathering season was past, and then went enthusiastically to work giving unfinished sections, mostly, to work upon. Well, the amount they managed to cram away in the brood-chamber before starting at all in the sections, took a good deal of the enthusiasm out of me ; but at length they went reluctantly, tardily, at work in the sections. But the sections were not as nice as those built by the same bees during the honey-flow.

Another set-back to the scheme was found in the great loss of weight during the feeding-back process. I did not keep an accurate account, but I believe it to be 40 to 50 per cent.

Another serious objection that presented itself consisted in the fact that all the bees used for feeding back died outright or dwindled badly. Too much honey in the brood-chamber I think was the cause.

My opinion is, that it will not pay to feed back, even to complete sections that are nearly finished, much less for the building of whole sections.

Extracting the Wax.—This is very often a great nuisance in a house, and many family jars have resulted from the process of rendering beeswax. In the *Western Plowman*, Mr. C. H. Dibbern gives some of his experience in these words :

I have lately experimented a good deal in rendering the wax from old brood-combs. In my experiments I have used about all known methods. I have boiled it and strained it ; I dipped it from the top ; I have steamed it and melted it in the sun extractors, but all with about the same result, not nearly all the wax would be secured.

Lately I had a pile of refuse from which I extracted all the wax I could get, but upon examination with a microscope I became convinced that a good deal of wax still remained. I filled a wash boiler full of it and boiled it until all the lumps separated. I had rigged up a box with a false slatted bottom in it. I poured the contents of the boiler into a strong burlap sack, placed it in the box after tying securely, placed a piece of plank on the sack, and a square block on top of that. I took a long plank to use as a lever, placing one end under a cleat nailed to the building, and commenced pressing the contents of the sack, gradually adding more weight till the pressure was about as great as the sack would stand without bursting. Leaving the weight on for an hour or more, the last drop of wax seemed to have separated from the mass in the sack. The wax and dirty water will be caught in the bottom of the box where it will readily cool.

After cleaning up this run I found we had seven pounds of nice, bright yellow wax, worth at least $1.40, and much more to make into foundation. This experiment has convinced me that many thousands of dollars are annually lost by the imperfect methods of securing beeswax. When the comb is new or from cappings, it is easy enough to get all the wax, but old, dirty pieces of drone comb, or odds and ends, mixed with propolis, and what not, it is quite another matter. I am now convinced that the only way to get nearly all the wax from such comb, is to submit it, as hot as possible, to a high pressure.

Bee-Keeping was one of the most rural occupations. At the time when man first commenced to stir the soil for his daily bread, bees were managed for domestic use, to furnish the only product then known and used exclusively as a sweet. The discovery of sugar-making supplied a cheaper staple, which placed honey among the luxuries. For hundreds of years such has been the state of the honey trade. Now we see advanced bee-keeping increasing the production to an extent which will place honey on regular bill of fare of the most unpretentious hotels. Indeed, we should see it there today.—*Exchange.*

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Figwort.—On page 649, will be found an article on this honey-producing plant, by R. S. Russell, committee on Honey Plants at the Indiana State Bee-Keepers' Association, Zionsville, Ind. Mrs. L. Harrison makes the following additional remarks on the same plant in the *Prairie Farmer :*

The Simpson honey-plant was brought to notice by Mr. Simpson, of Warren county, Ills. It is often called rattle-weed, as the seeds will rattle in the pod, and Carpenter's square, as it has a square stalk. It belongs to the figwort family, the botanical name *Scrophularia nodosa*, from its being a supposed remedy for scrofula. It delights in damp, shady ground, and grows wild over a large extent of country along hedges, old rail fences, stumps, etc. Willows are all good honey-plants. One tree bears all pistillate flowers ; another all staminate. The pistillate yield honey, and the staminate pollen, and the bees act as marriage priests carrying the fertilizing powder from one to another.

There has been more honey gathered in one day from basswood than from any other source. Many persons learning this, planted out orchards, but were sadly disappointed in the yield. Plants do not yield honey in the same amount in different localities. While basswood yields largely in Canada, Vermont, Michigan, etc., it is worth but little for that purpose in Illinois.

The Season in Canada is thus described in the last issue of the *Rural Canadian :* "The past season has been a very poor one for bee-keepers. Last summer (1887) the drouth prevented clover from seeding, and this prevented the usual flora of this nectar-secreting plant, one upon which the bee-keeper depends so much for his profits. Linden yielded but little, and our only hope was thistle and fall flowers. Heavy and frequent showers have given a yield sufficient for winter, and perhaps an average of 15 pounds to the colony surplus. Of course it will be necessary to distribute this evenly between those colonies which have gathered insufficient."

Irresponsible.—In *Gleanings* for Sept. 1, 1888, we find this brief "puff :"

We have for some time past had complaint from different parties in regard to Mr. F. J. Crowley, dealer in apiarian supplies, Batavia, Genesee county, N. Y. We are now informed that he is in Batavia only a part of the time, and is no way responsible.

He has also been owing us for several years, but we can get nothing from him. There are many more very much like Crowley, whose transactions ought to be published for the benefit of honest men. We are considering the matter of publishing a black list, and we may have to do it yet.

A Modern BEE-FARM, and its Economic Management ; showing how bees may be cultivated as a means of livelihood ; as a health-giving pursuit ; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1, postpaid.

Look at Your Wrapper Label.—The date there indicates the end of the month and year to which your subscription is paid. If that date is past, we hope you will sit down at once and send us the necessary dollar to move the date a year ahead. The following incident, from the *Breeder's Journal*, illustrates the danger of procrastination in this matter of punctually paying subscription for your paper:

Not long since, says a writer, I dropped into a prominent newspaper office, and, while chatting with the editor, a well-to-do stock-raiser of that county dropped in and planked down the necessary amount for two years' subscription in advance for the paper, and at the same time remarked:

"I want the tag on my paper to be in such a shape that I need not be ashamed, when a friend calls at my house, to let him see it. You may believe me or not, but it is a fact all the same," he continued, "that a little matter like that has already saved me considerable money; and one particular instance I want to tell you about. I had some dealings with a certain man," said he, "and one day, while at his house for the purpose of selling him some sheep, I chanced to pick up his newspaper. I observed by the tag upon the margin that he was terribly in arrears for it. The fact that a man would allow his newspaper account to run on, year after year, to such an extent, set me to thinking, and I resolved that should he ask me for credit—he already owed me for fifty head of fine sheep—I would respectfully decline his request. As I had anticipated, he did ask for time, which I not only refused him, but demanded the amount already due me. He was unable to meet the obligation just then, he said, but would do so very soon. I sold my stock elsewhere, but I never got the money out of the man for the sheep I had previously sold him, nor do I expect to. Had I not seen that tell-tale newspaper tag he might have stuck me still further. Now, when I am in doubt as to a man's responsibility, all I want to enable me to accurately size him up is, to get my optics on his newspaper tag, and in nine cases out of ten I will never be mistaken in my estimate of him."

We commend this item to the careful perusal of all those who are in arrears for their reading matter. Good credit is better than a fortune—nay, it is a fortune itself.

Rustic Superstitions about the Bees.—We clip the following from the *Scottish Farming World*:

Many curious and quaint traditions, dating from a remote past, still linger around the venerable straw hive, and upon which we may dwell more at length on some future occasion. Not a few cottage bee-keepers of the old school still devoutly believe in the efficacy of adhering to old customs to the very letter, absurd and amusing as they appear to outsiders. It is considered indispensable at the outset that the swarm be paid for in *gold*; silver coin is supposed to be "unlucky," and, accordingly, the lesser gold coin is tendered almost invariably in payment. It is just possible, however, that this tradition may have originated on the part of some shrewd bee-keeper anxious to keep up the price at a time when swarms were many and sales few. In some places it is the practice to put a little sugar at the hive-entrance on Christmas Eve, and at the stroke of midnight the bees are believed to come down and eat it. If a death occurs in a family, the hives must be draped with the insignia of mourning, and at night the bees are "woke up" by sharply rapping the hives with the knuckles, and each is then informed of the event; the sound caused by the humming of the bees inside the hives, alarmed at being "woke up" in such a manner, is considered to be their response to the communication. A generation ago this belief was very general, and it has still many adherents.

Quite recently a couple of old bee-keepers, Sam Goodheeve and Phil. Hackles, characteristic representatives of the old school, discussed the topic, happily unconscious of a "chil" standing by "taking notes." We subjoin it verbatim:

"Our Joe tells me that poor old Tom Hedgestake's heeves be all dead arter all," said Sam, "and he fed 'um too, all the time he could still get about."

"What else could 'ees widder expect," replied Phil. "She ne'er woke 'em up when the old man died, and ne'er put one of 'em in mourning."

"Well, I told how't would be," Sam rejoined; "and now she sees plain enough how my words become true. But there be a many people that'll ne'er be told nothing, and so she must put up with consequences."

"Bees be curis things now," observes Sam musingly, after lighting a fresh pipe; "and I well mind how, when Uncle Jim died—that was in the 'ear '60—his heeves all perished the followin' winter, as there was not a scrap o' black put on any on 'em. Now when my feyther died, and that nigh on thirty 'ear ago, I took care to wake the bees up and put all the heeves in mournin'. I cut up his old black weskit on purpose, and not one on 'em perished; and they was the forridest too swarm of anybody's round about that spring. What a whoppin' lot o' honey I had that 'ear surely! I sold £6 worth, 'sides what we ate inside, and brewed a big barrel o' mayde in t' bargain."

CONVENTION DIRECTORY.

1888	*Time and Place of Meeting.*
Oct. 3-5.—	North American, at Columbus, O. W. Z. Hutchinson, Sec., Flint, Mich.
Oct. 4.—	Ohio State, at Columbus, O. Frank A. Eaton, Sec., Bluffton, O.
Oct. 6.—	Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.
Oct. 16, 17.—	Union, at Clayton, Ills. S. N. Black, Pres., Clayton, Ills.
Nov. 21, 22.—	Pan-Handle, at Wheeling, W. Va. W. L. Kinsey, Sec., Blaine, O.
Dec. —.—	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER-BOX

Results of the Season.—J. E. Boyles, Nelsonville, O., on Sept. 17, 1888, writes:

I wintered 30 colonies, spring count, on the summer stands. I have always wintered my bees that way, and generally with success, but not always. They came through in nice condition, and all bred up early except one which was queenless. I gave them brood with adhering bees, and a queen-cell, and they soon became strong, but too late to store surplus. I have five new colonies by natural swarming. The last one on June 18 was a large one, and became very strong, but too late also for surplus. All of the 33 colonies stored more or less honey in the sections, amounting to about 1,000 pounds, although a portion of the sections were unfinished. I sell in my home market, and mostly at the stores where I sell garden stuff, as I am in the garden business. I get 16 cents per pound for honey, in cash, or 20 cents in merchandise. I could always sell more if I had it. The present crop is about two-thirds gone, and I could have sold all of it by this time, had I not been crowded with my other work. Our honey harvest was ended by July 5. We never look for a fall crop here; yet the bees have had much better late forage than usual, as we have had plenty of rain.

Decidedly the Best Season.—N. C. Clayton, Central, S. C., on Sept. 19, 1888, says:

I have been a bee-keeper several years in a locality that, years ago, was exceedingly good for bees, but of late it has been the reverse, some years having no surplus at all. But since applying modern improvements I get some honey every year, and my report for this year is decidedly the best it ever has been. I began in the spring with 31 colonies, controlled swarming pretty well by extracting, and took about 75 gallons of honey. There is not much market for honey here.

What a Woman Can Do.—Mrs. Harriet A. Gale, Shelby, Lake Co., Ind., thus writes of her season's work and the cash results:

My bees have done well for the past season. I have 18 colonies now with honey-boxes on the hives. When those on are finished, my crop will amount to over a thousand pounds, which I have already sold for 18 cents per pound, and a part of it is already shipped.

Determining the Sex of Bee-Eggs.—M. S. Morgan, South Elgin, Ills., on Sept. 27, 1888, writes:

I am obliged to dissent from the commonly received theory that the volition of the queen determines the sex of her eggs. In my opinion, after her fertilization any one of her eggs will produce a worker, a queen, or a drone, according to the purpose and manipulation of the workers. A proof that a worker-egg may be made to produce a drone, may be obtained in this way: Divide a colony, giving to the new hive, bees with sealed worker-brood only, together with a queen-cell. Be sure that there are no drones in the new hive. Now from a colony that have killed off their drones, select any one frame of entire worker brood having a few unhatched eggs; place this frame in the new hive; and I will guarantee that upon this frame will be found the elongated cells of drones, whilst in the colony from which it was taken, there will be workers only. The egg with the sperm attached produces a worker; the same egg with the sperm detached, produces a drone; the separation being made by the volition of the worker, and not by the volition of the queen.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

QUERIES & REPLIES.

Handling Bees with Veil and Gloves.

Written for the American Bee Journal

Query 580.—Is it desirable to use a veil or gloves, when handling bees?—Kentucky.

Veil, yes; gloves, no.—G. M. DOOLITTLE.

A veil almost always, but gloves never.—JAMES HEDDON.

Yes, a veil, but no gloves.—J. P. H. BROWN.

A veil, but no gloves.—C. C. MILLER.

Yes, a veil, but not gloves.—R. L. TAYLOR.

I use a veil, but no gloves.—J. M. HAMBAUGH.

If the bees are disposed to sting, yes. If not, no.—M. MAHIN.

Yes, a veil, when necessary to prevent stings. Gloves never, say I.—A. J. COOK.

A veil, yes; but not gloves, unless you cut off the finger tips.—DADANT & SON.

A veil is very desirable at times. I never handle bees with gloves.—H. D. CUTTING.

I prefer to. You cannot always or sometimes tell how bees are going to act.—MRS. L. HARRISON.

Sometimes it is best to use both, and "Kentucky" is not much of a bee-keepers if he cannot tell *when*.—A. B. MASON.

Sometimes it is well to use a veil, but gloves of any kind are useless.—C. H. DIBBERN.

It will depend wholly upon the individual, and on the bees. There have been times with myself, where both were absolutely necessary.—J. E. POND.

It is desirable to have a veil *ready* for use, and to use it when you feel like it. Gloves are seldom needed. Bees usually strike "above the belt." Singe the long hairs off the back of the hands, and do not jerk back if a bee darts at the hand. Keep your nerves steady and—*hold your breath!*—EUGENE SECOR

There are times that bees can be handled with impunity without a veil, but after one gets stung on the bridge of the nose, or other tender spots on the face, he will always think of having a veil when handling bees. Gloves are a nuisance, and not desirable.—P. L. VIALLON.

It is very desirable to me on some occasions. I do not often wear gloves, but I would use them oftener if I could get gloves that would not be in the way of nimble fingering. A bee-veil is among the essential devices in apiary work. I frequeutly hear people say that they have no use for a veil or gloves. It is evident that such people know but little about handling bees. When taking honey, tiering-up, etc., during the honey flow, I rarely ever use a veil; but I frequently go through hybrid colonies to remove queen-cells and such-like operations, and I know that I have met with cases where an unprotected person would get a sting in every square inch of his hide.—G. W. DEMAREE.

I use a veil, but no gloves. I am not often stung, but the chance of a sting in the eye, or a bee in the ear, causes me to wear a veil.—J. M. SHUCK.

When honey is coming in, there is but little reason for wearing a veil, but a good smoker should always be at hand, for use in case of an emergency—an accident, for instance. Gloves are of use, to protect the hands, when the finger-tips are cut off, in times when the bees are cross, or there is a dearth of honey.—THE EDITOR.

Bee-Sting Remedies.

Written for the American Bee Journal

Query 581.—Are the so-called bee-sting remedies of any value for curing bee-stings? Iowa.

I think not.—R. L. TAYLOR.

They are of very little value.—J. P. H. BROWN.

I think not.—J. M. HAMBAUGH.

None that I have used, and I have tried many.—JAMES HEDDON.

Yes, a little. I think that ammonia is the best.—A. J. COOK.

We tried them, and think nothing of any of them, except cold water.—DADANT & SON.

Some of them are. The oils of cinnamon and cloves have been of real value to us this season.—A. B. MASON.

Very little, if any. The best remedy I have found is saliva from my own mouth.—M. MAHIN.

I do not know from experience, but my faith in them is not very strong.—C. C. MILLER.

From experience and reading on the subject, I am of the opinion that no remedy of value has as yet been found.—J. E. POND.

Simple pure ammonia is the best of anything I have used, but of late years I have not used anything.—H. D. CUTTING.

Not any that I have ever tried. If a person belonging to my family were stung badly, I should put them in a wet sheet pack. If an animal, in like manner.—MRS. L. HARRISON.

I never use any. Years ago, when I first commenced, few suffered more from stings than I did. Now they affect me but little more than an insect bite.—G. M. DOOLITTLE.

They have proven worthless so far as I have experimented with them. It is proper to say, however, that a bee-sting amounts to very little with me, anyway.—G. W. DEMAREE.

They will aleviate the pain and lessen the swelling on persons not used to stings. The professional bee-keeper has little use for them.—C. H. DIBBERN.

I have not tried everything, but nothing that I ever did try did any good, so far as I could discover. Stings do not swell on me any more. If I get stung on the end of the nose, my friends do not notice any difference.—EUGENE SECOR.

The absorption of the poison is immediate, and no local application is of any value. I would like to have Prof. Cook give us an article on the subject, and bring in the action of the hypodermic syringe to fully demonstrate this.—P. L. VIALLON.

I think not. A sting in the hand, where I always get it, if at all, can be instantly rubbed out on the clothing, and, many times, the poison will not reach the blood at all. The bee will often be crushed in this way before it has pushed its lance into the skin.—J. M. SHUCK.

Our British friends are very enthusiastic in their praise of the use of apifuge for the prevention of being stung by bees. When Mr. Cowan was here he spoke very highly of it—though some have condemned it, or stated that they did not think it of value as a preventive. When stung some use ammonia to advantage to allay the pain; others apply smoke for the same purpose. The poison acid may be neutralized by an alkali; saltpetre for instance. Ice cold water, if applied at once, will drive the blood back, and quite often affords relief.—THE EDITOR

Convention Notices.

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee-keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The next meeting of the Union Bee-Keepers' Association will be held at Clayton, Ills., on Tuesday and Wenesday, Oct. 16 and 17, 1888, in the Town Hall at 10:30 a.m. The Park Hotel will charge $1.00 per day; the restaurants 25 cts. per meal. We expect Messrs Dadant, Hambaugh, Camm and other prominent bee-keepers to be present.

S. N. BLACK, *Pres.*

☞ The Ohio State Bee-Keepers' Association will hold its 6th annual meeting in joint convention with the North American Bee-Keepers' Society at Columbus, O., on Oct. 3, 4 and 5, 1888. A special business session of the Ohio State Bee Keepers' Association will be held on Oct. 4, to elect officers for the coming year, and for the transa tion of other business. This business meeting will not interfere with the regular programme of the National convention of the same day. FRANK A. EATON, *Sec.*

☞ The North American Bee-Keepers' Society will hold its annual meeting on Oct. 3, 4 and 5, 1888, in Representatives' Hall at the capitol in Columbus, Ohio. The Passenger Traffic Associations will grant reduced rates only when 100 persons are present, holding railroad certificates. Owing to the short honey crop it is feared that a sufficient number of persons will not be present holding certificates, and that an attempt on the part of the Society to avail itself of the reduced rates offered by the Passenger Traffic Associations will only result in disappointment; hence it has been decided that the only course open will be to allow each member to shift for himself, or herself, to either take advantage of such excursion rates as may be available in his or her vicinity, buy round-trip tickets, or do something of the sort.

W. Z. HUTCHINSON, *Secretary.*

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Scatter the Leaflets.—Look at the list (with prices) on the second page.

CORRESPONDENCE.

The Battle-Bees.

Were you there when the columns swirled about,
Did you hear the cannons' rattle?
Did you hear the regiments' lusty shout,
And the hum of the Bees of Battle?

The bees that hummed in the air were of lead;
How they sang through the leafy bowers!
And the juice of the flowers which they drank was red—
How the Battle-Bees fed on flowers!

Were you there when the bees came humming through,
Were you there when they so beset us,
When the honey they made with so much ado
Was sweeter than that of Hymettus?

Was it sweet? Ah, it was! So I say again:
Its sweetness is told in story—
It was deadly sweet to the armies twain—
But the honey was only glory.

—*Selected.*

BEE-DIARRHEA.

The Result of Experiments Made to Discover the Cause of It.

Written for the American Bee Journal

BY G. R. PIERCE.

Query 564 reads thus: "During December, January and February of the winter of 1884-85 I lost 700 full colonies out of 900 located in five apiaries.... The frames and combs were badly smeared with excreta where there were a few bees and queen left....The winter of 1885-86 was the same with 600 colonies. The winter of 1886-87 all of 400 colonies came through to February. They commenced dwindling then, and went down one-third....The past winter has been the same. I have some 15 or 20 colonies that have withstood all these winters, and have come out good every time under the same conditions. 1. Have you had this experience? 2. What is it? 3. How can I stop it?—Illinois."

The above is the substance of Query 564, on page 502. It was accompanied by the opinions of some twelve experienced apiarists as to the cause of the disease in question, and how to prevent it—a few to whom the query had evidently been submitted, not expressing any decided view on the subject. All who expressed any opinion were united in referring the trouble to bee-diarrhea, and the cause to improper food, but disagreed as to the manner of prevention. Some advise "Illinois" to feed pure cane-sugar; some to keep the bees in a warm cellar; to deprive them of pollen, etc.

Doubtful Cause of Bee-Diarrhea.

I believe but very few persons who have kept bees in the Northern States will hesitate in naming the disease referred to in the Query as bee-diarrhea; but as to the cause—that is the rub! That is the winter problem which has been discoursed upon in all the bee-periodicals of the land during the past twenty years, and if there has ever been a clear, rational explanation given of the cause of this disease—the dread of the Northern bee-keeper—it is not yet manifest to the mental vision of the fraternity. The hypothesis of to-day does not become a theory to-morrow, but is kicked out to give place to the next plausible explanation that may be offered; in the meantime, the disease "gets there just the same," as sure as the winters come on—at least it does with the majority of bee-keepers.

Facts Discovered in Experimenting.

I do not propose, in this article, to advance any explanation as to the cause of the trouble under consideration—this would require more time than I have at present at my command—but rather to bring forward some facts which I think have escaped the attention of some of the prominent writers on this question. I have indeed an hypothesis—as every bee-keeper must have—to explain the cause of winter losses in the apiary, but for the present I must try to confine my remarks to certain facts which I have noticed while conducting a series of experiments undertaken with a view to discover some practical method by which bees could be carried through the winter with as little risk as is incurred by the stockman in wintering his horses, cattle, sheep or hogs.

We may boast to our heart's content of the great advance made in bee-keeping; of our extractors, comb foundation machines, and the superiority of the improved hives now in use, over the bee gums of our daddies, but after all the fact remains that the average winter mortality among bees is quite as high now as it was 25 years ago.

The winter of 1879-80 was very cold, all through the northwest, and the losses among bee-keepers were very extensive, especially among those who practiced out-door wintering. My own losses were so severe that I resolved to conduct a series of experiments with a view to arrive at some definite idea as to what was the cause of winter mortality among bees. I had for years taken much interest in this question; had read everything available on the subject; had tried nearly all methods and devices recommended in the bee-papers and books devoted to the industry; and had seen more or less of my bees die every winter and spring without being able to afford them any relief. I do not mean by saying this, that my losses were more than that of the average of bee-keepers in the North—I do not think they were as high as the average; but I was losing more bees than I thought necessary to lose if the proper conditions of wintering were understood.

Different Phases of Bee-Diarrhea.

The solution of the subject under consideration naturally leads along three lines of thought, viz:

1. What is it?
2. What causes it?
3. What will prevent it?

It might be supposed that the first question was known from the start, but this idea is an error, arising from the notion that diarrhea is a specific disease, whereas it may be simply a corroborative symptom of some organic or constitutional derangement. Simple diarrhea is *generally* caused by a sudden change in food or drink, or by the introduction of improper or vitiated alimentary substances; but it often occurs when the cause has not the remotest relation to food or drink. Medical writers recognize this distinction by treating of the subject under different heads—usually three—but as my education has been confined mainly to chemistry and *Materia Medica*, I shall not attempt to explain all the different phases of the disease.

The Quality of Winter Bee-Food.

Now to return to the Query, the question arises, did those bees have the diarrhea in its simplest form, or was it exhibited in connection with some derangement of the bee-system? If the former supposition is correct, then we may properly look to the food for the cause. If the latter, then the cause must be sought elsewhere. My opinion is that the disease, which is usually termed bee-diarrhea, is the out-growth of another disorder, and the cause of this is seldom, if ever, to be referred to the *quality* of the food. I do not wish to be understood as saying, that if bees were fed impure food they would not have the diarrhea, for they probably would. What I mean to assert is, that the *quality* of honey has nothing to do, in ninety-nine cases out of a hundred, with the bringing about of the disease in question. I am forced to this conclusion not only from experimental experience—which I have not time to set forth—but also from the following reasons:

First, when animals are afflicted with simple diarrhea, the organs of the system are in a *relaxed* condition; there is no distention or inflammation. In bee-diarrhea—so-callled — there is unmistakable evidence of *congestion* and inflammation. The bloated appearance evidently does not result from the accumulation of fecal matter, for it does not disappear after evacuation. It might be urged that the retention of the feces in the intestines for an unusual time would cause irritation which would evidently produce inflammation in the surrounding membranes. This argument seems very reasonable, but I am disposed to believe that it is not applicable to this case for the following reasons:

1. It has been proven repeatedly by direct experiment, that bees can be kept housed for six months or more, on stores of honey and pollen, without any injurious effect. 2. Bees often become diseased within two or three days after having had a cleansing flight. 3. The disease usually makes itself manifest within a short period of time. I have repeatedly seen colonies become badly sickened within 10 or 12 hours after a previous examination, when, to all outward appearance, they were in perfect health. The second and third reasons, by themselves, prove nothing, but when taken together, tend to disprove the hypothesis that the disease is caused by fecal accumulation.

The Impure-Food Theory.

Second, I disbelieve in the "impure food" theory because, when improper substances are taken into the animal

system, nature acts *ab initio*—from the beginning. When a young man commences to use tobacco, he does not smoke a box of cigars before feeling the unpleasant effects of the weed; the first cigar or pipe generally "lays him out" limp and pale, with his whole internal apparatus in open rebellion and spasmodic eruption. The farmer understands that, if he feeds green food exclusively to animals, that have been fed upon hay, they will, for a time, "have the scours." These are only a few of the many examples that might be cited to illustrate that wise provision of the Creative Power, by which all animals are warned against partaking of substances which would cause the system to become deranged, even if the derangement is only temporary, as in the case of a sudden change of feed.

Third. There is still another objection to the "impure food" argument. Even when the adult members of a species of animals are enabled, by virture of their superior physical power, to eat food which may not be best for them, if the same food be consumed by the same species of immature growth, the evil effects will very soon become apparent.

Now in the case of bee-diarrhea, neither the young bee, just emerging from its cell, nor the one that has nearly completed its course of life, exhibit any indications of disease until nearly the middle of the winter, and very often not until the month of March.

To still further show the fallacy of the prevalent idea that winter mortality of bees is caused by improper food, let me illustrate by the following facts that have come under my notice while studying this question:

Experiments in Wintering Bees.

Suppose we take ten hives containing colonies of normal strength, both as to bees and honey. Let these colonies be left on the summer stands and protected from the weather in any manner that the experimenter may see fit, provided it is so arranged that the clustered bees may be examined from the *top*, with as little disturbance as possible.

Now if we examine these colonies, say on Dec. 1, we shall find—if the weather is cold—the bees closely clustered in the front-center of the hive, with the top part of the living sphere from 3 to 5 inches *below* the top-bars of the brood-frames—the distance below will vary according to the disposition of the honey stores and the depth of the frame. If the weather continues cold, the motion of the cluster will be upward, and in time the bees at the top will be in close proximity to the honey-board or quilt, whichever may be used to cover the hive.

Suppose these 10 colonies are closely watched, and it is found that on Jan. 1, 4 colonies are so clustered as to reach over the frame tops; this interval of time—December to January—we will designate *a*. On Feb. 1, two more are in the same position, interval of time called *b*; still two more reach this position on Feb. 15, interval of time *c*, and the last two on March 1, interval of time *d*.

Now what I wish to bring to the notice of the reader is, that during the interval of time *a*, there will be no danger of any of these 10 colonies becoming diseased. During the interval *b*, if there is disease it will be among the first 4 colonies named; during interval *c* only among six; during interval *d*, only among eight. After March 1, if very cold weather is experienced, or if the hives are not properly protected, all of the 10 colonies are liable to become diseased; but the chances of escape are in favor of those which were last to reach the top-bars, and against the first.

The question arises, what has the position of the clustered bees to do with the bringing on of the disease, if the cause is to be referred to improper food? If the honey in the upper region of the hive is unfit for bee-food, why is not that below?

But let us try another experiment. Take a good, strong colony—it is no matter about the quantity of stores—and in place of the honey-board place over it an empty hive, or a box, without top or bottom, of the same dimensions as the hive. To prevent its being moved, light cleats should be nailed on the lower edge, or straw may be piled around on all sides except the entrance. Now lay a piece of oil-cloth on the frames, and over this tuck snugly a piece of heavy blanket or quilt. Cover with a heavy board to keep out rain or snow. As soon as the clustered bees reach the top-bars, take six one-pound sections of sealed honey, cut out entrance-ways in the sides, and lay them close together, side downward, in such a manner that the center of the clustered bees will be directly under the general center of the sections. Replace the coverings, and do not disturb them until about the time they will have consumed most of the honey in the sections, when another course must be laid on, and so continue as long as the bees approach the coverings.

The result of this experiment will be, that the colony operated upon will be alive and in good health on the first day of April, or thereabouts, no matter whether there is pollen in the honey or not; no matter what kind of honey is used—only that it must be sealed—whether from white clover or buckwheat; gathered in the spring or fall, it makes no difference in the result. If any one doubts this, it may be verified or disproved during the coming winter.

What the Experiments Prove.

These experiments, together with others not mentioned, prove conclusively to me that *quality* of food has seldom, if ever, any part in producing diarrhea—so-called; and acting upon this theory, I have been enabled to so prepare my bees that I have had no losses from this cause during the past five winters, and shall prepare my colonies for the coming winter with perfect confidence that they will pass that heretofore critical period in vigorous health.

If the reader of this article desires to know what name I would give the disease, I would say that I am not an expert at clinical diagnosis, therefore I have not unlimited confidence in my conclusions; but if he will, for the time being, throw aside all preconceived notions about ventilation, absorption, hibernation, pollen consumption, etc., watch his bees and read some standard work on catarrh, he may, or may not, come to the conclusion to name it *intestinal catarrh*.

How to Prevent Winter Losses.

The main point, however, is to know how to prevent this trouble, and this can be done by the following:

1. Never stinting the bees in their supply of honey.
2. Keeping the hives so protected that the heat generated by the bees will be retained as long as possible *within the hive*.

I have no confidence in any system of wintering bees which does away with *hive protection*, not even when wintered in a cellar. The first cost is an item, but it pays well in the end.

Blairstown, Iowa.

AUTUMN.

Suggestions about the Necessary Fall Work.

Written for the Farmers' Advocate

BY R. F. HOLTERMANN.

As the honey-flow has been so very short this season, bee-keepers will be inclined to take away more honey from their bees than good judgment should allow, and as a natural result the bees will starve before spring. If an upper story is put upon a hive, and this is called the surplus arrangement, it does not mean that the bees can spare all they put in a jar from it; of extracted honey, especially, the bees rarely have enough in the lower combs for winter. So many bees are lost by starvation, and so much has been said upon this subject that it would seem almost as if there was no use in writing upon this subject.

Get your bees ready for winter early—in fact, in summer it should commence, and as the brood will often not permit the storing of sufficient honey below, reserve two or three combs of good honey well capped, and have these to fall back on in every hive, if they do not have the requisite quantity of honey on Oct. 1. Take out combs free from brood and with the least honey, and put in the combs of sealed honey.

It is a very bad plan to feed—time is taken up. The bees rob if they get the least chance; it wears the bees of the hive out as a honey-flow does, and leaves them aged for winter; and there is a great, actual waste by the bees in placing their stores in the hive, to say nothing of the bad impression that your neighbors get to see you haul home sugar and feed it to the bees; they of course at once say your are "making honey." See, then, that your bees have 30 pounds of feed, an average hive with combs and bees weighing 20 pounds. Have this feeding done before Oct. 1.

Winter-Passages n Brood-Combs.

These enable the bees to pass from comb to comb without having to pass under them or around the sides, and the desirability of such passages will be better understood when it is remembered that the lower part of the hive is colder than the upper. The bees cluster on the combs in a ball-shape, for instance, the center combs have the largest number of bees, and the outside combs the least of any. The size of this cluster depends upon the temperature of the hive, and the higher the temperature the more the bees spread over the frames; the colder, the more compactly they cluster. Then as they cluster in a ball shape, when the cluster contracts they can contract on each comb, but not towards the center of the cluster unless they go down or outside and pass around the comb, which is a movement just opposite to the natural, and those on the outside combs become isolated and perish. If there was a passage through each comb, where the center of the cluster on the comb would be, the bees could pass through and join the cluster on the other side. The best position for the passage would be in the center of the upper two-thirds of the comb, above rather than below.

There are many contrivances for cutting or punching these holes. Perhaps the best is a cone-shaped piece of tin, growing in diameter, as it recedes from the cutting end. This can cut a round hole through the comb, allowing the piece of comb removed to slide out on the wide end of the cone. Another plan resorted to is, to lay a bridge over the top boxes. This bridge is constructed simply of sticks, so made as to allow the bees to pass from comb to over the top boxes. If you winter your bees outside, it is particularly desirable to make these passages for the bees. In a warm cellar it is less necessary.

Old and Worn-Out Queens.

Many colonies perish in winter or early spring because their queens are old and worn-out, and perish at this season of the year. A queen will sometimes be vigorous and prolific when five years old, but much oftener a queen will be in that condition in which she should be replaced by a young and vigorous queen, at three years of age.

The question naturally follows, how shall we know the age of a queen? This is a somewhat difficult matter, and a careful record of each hive, which should be numbered, is a good way. Bear in mind that the old queen issues with the swarm, and you must transfer the record with the swarm. If queens' wings are clipped, the front right wing may be clipped the first year, the rear right the second year, and the left, next in order. If you have only a few colonies you should have no trouble to tell the age, and should know all your queens by sight.

If you have old queens replace them before fall; this may be done by taking out the queen and placing a queen-cell in the hive which you know is about ready to hatch. Use good stock, and now and then purchase a "dollar queen" from some one whose bees you know have blood different from your own bees. In bees, as in other stock, new blood of the right kind gives vigor and energy—very desirable qualities in bees.

Brantford, Ont.

BEE-PASTURAGE.

Figwort, or Simpson Honey-Plant, for Honey.

Read at the Indiana State Convention

BY R. S. RUSSELL.

Where is there one who has handled bees and made them his associates, who doubts for a moment that these industrious little misers will appreciate any improvement in their homes and plantation, and doubly repay any judicious outlay toward supplying them suitable plants from which to extract the honey?

We believe that a bee is not happy except when employed gathering the sweets which Nature stores in certain plants. Now is the time to lay the foundation for an abundant honey harvest.

If you have no bee-willow near your apiary, procure a few roots or cuttings, and plant in low land near the apiary.

Simpson Honey-Plant—Figwort.

This will bring the earliest pollen, which is the most useful. The bark will crack late in the fall and furnish a harvest of honey after frost has killed all flowers. Also set out a few soft and hard maples, and tap lightly in two or three places early in the spring. Set these trees near the bee-house, as many bees are chilled and lost in rambling for the early sweets.

Be sure and save all the basswood on your farm, and plant a few more in old pastures for shade. Plant catnip, the more the better, near the apiary; it is fine for the young bees. Spare all the golden-rod when mowing the fence-corners, also all asters. The bees will tell you what they are when in bloom, if you do not recognize your friends.

Sow a patch of buckwheat on July 1 and 20; and also on Aug. 10 and Sept. 1. Last but not least, procure a supply of Simpson's honey-plant seed from some reliable apiarist or seedsman. It can be sown in hot-beds, and transplanted the same as cabbage, or sown in open ground. It will grow anywhere, in fence-corners or waste ground, in shade or cultivated fields, planted 2½ feet apart. It is a certain grower, and will "get there" whether cultivated or not.

This is, beyond doubt, by far the best honey-plant of all, giving a steady flow of good honey from the middle of July until killed by frost. The honey accumulates in the cup-shaped flowers, and if all removed will almost immediately fill up again, thus affording an inexhaustible supply faster than the busy workers can remove and store it.

I have noticed no disease in my apiary since I have raised this honey-plant. I think that the secret is, it keeps the bees employed gathering good, healthy honey, instead of trying to extract it from decaying fruits and vegetables in the fall months, which they are sure to do unless they can work on something better.

It is a medicinal plant, but is not eaten or disturbed by stock of any kind, and will take care of itself after the first year. It is not a noxious weed which will take possession of your farm, but is easily exterminated.

Brother apiarists, I can imagine no lovelier stroll than through my woods in August and September. This honey-plant is in full bloom, and the beautiful Italian bees make the woods musical from daylight until dark. I will not speak of the merits of the different varieties of clover, as of necessity they will be sown, and help to round out a season for the most industrious creature of God's creation.

GRAPE BLOOM.

Bees Gathering Honey from Grape-Blossoms.

Written for the American Bee Journal

BY PROF. A. J. COOK.

"Do men gather grapes from thistles?" No, but bees gather honey or nectar from grapes.

A few days since a gentleman from Texas sent me what he thought was a kind of sarsaparilla, with the statement that bees were collecting much honey from it. He was a subscriber to *Gleanings*, and at his request I named the plant for that paper.

Now our friend C. F. Muth, sends me the same plant with the following: "Our friend J. W. Park sends the enclosed plant and blossom from Columbia, Texas. He calls it 'cow-itch,' and says that it grows profusely in his neighborhood, and yields very abundantly of a superior quality of honey."

Right here we see the mischief of common names, and the necessity of scientific ones. One calls this "sarsaparilla," and one "cow-itch," and it is really one of the very reputable grape family. It is *Vitis bipinnata*. It is a bushy, low, climbing vine, with fruit about the size of a pea, but not eatable.

As will be seen, it belongs to the same genus—*Vitis*—that includes all our grapes. *Vitis vinifera* is the Euro-

pean grape; *Vitis lobrusca* is the northern fox grape; *Vitis æstivalis*, the summer grape; *Vitis cordifolia*, winter or frost grape; and *Vitis vulpina*, the southern fox grape. *V. indivisa* is more closely related to the one in question, as its berries are not edible.

Agricultural College, Mich.

BABY BEES.

A Few Thoughts for Children About Young Bees.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

There is a good deal more in a colony of bees than the honey and wax they produce. They are models of industry, neatness and order. About the first lines engraved on the plastic clay of my memory, are these of Watts:

How doth the little busy bee
Improve each shining hour,
And gather honey all the day,
From every opening flower.

How skillfully she builds her cell,
How neat she spreads the wax,
And labors hard to store it well
With the sweet food she makes.

Children should be taught to watch the bees as they go in and out of their hives, and, particularly, notice that each individual bee has a duty to perform for which it is accountable. The guards protect the entrance against all intruders, and no enemy is allowed to pass without resistance. It is amusing to watch a bumble-bee as it tries to evade the guards aud gain access to the rich stores within. How soon his back is mounted, and "policemen" at his side bring him forth, as he loudly buzzes and struggles for freedom. Bees from neighboring hives are not allowed to enter without showing their passport, which is a well-filled sac of nectar, while all paupers are denied entrance. Woe betide the moth that has the presumption to knock at the door of a strong colony of Italians, for it will never try that game again.

When the young drone bee emerges from the cell, he looks around for something good to eat. If he is not fed by the field workers, he goes to a cell and helps himself. This he is allowed to do *ad libitum*, until his duties commence, which, in his case, is to fertilize a queen. He daily sallies forth in quest of her, to perform the task for which was the purpose of his creation, and in the performance yields up his life. If he is not needed for this duty, he must "walk the plank," for no needless members are allowed, but all must succumb to the good of the commonwealth.

The young worker is allowed a few days to eat and digest food, when her duties as nurse to the larvæ and queen commence.

The duties of the queen are so onerous, in the production of so many eggs, that her system is not capable of sustaining the draught, unless her food is given her in a half-digested state, so that it readily assimilates. The queen, even, is not allowed in the hive, if she does not perform her duties properly. She must not "skip any stitches," but go round and round in a circle, using every cell; and her progeny must be able to perform their duties, or she is ejected. Woe betide her, if she rears all "boys" and no "girls," and her owner finds it out.

When the worker's duties of a nurse are completed, she takes a rest in secreting wax and building comb, and is allowed a play spell after dinner, that she may learn the location of her hive. Perhaps she is given a lesson now and then in stinging, as she is always an adept at it, and ready, on the least provocation, to "curl her tail." We see more of her in her capacity as guard and field-worker than in any other.

She attends strictly to business, and, when gathering clover honey, does not stop to smell the fragrance of roses, pinks and posies, but goes quickly from one clover blossom to another. There is harmony in Nature, and she must carry the fertilizing powder from flower to flower, so that the seed will germinate, and the plant be perpetuated.

Peoria, Ills.

IOWA.

Report of the Iowa State Bee-Keepers' Convention.

Written for the American Bee Journal

BY JOS. NYSEWANDER.

The Iowa State Bee-Keepers' Association met in their commodious tent on the Fair Grounds during the State Fair, on Sept. 4 aud 5, 1888. In the absence of President Spaulding, Joseph Nysewander acted as temporary chairman at the opening of the meeting. In the election of officers the following were chosen for the ensuing year:

President, Mrs. O. F. Jackson, of Sigourney, Iowa; Vice-President, Eugene Secor, of Forest City; Secretary, J. W. Moore, of Des Moines; and Treasurer, Jos. Nysewander, of Des Moines.

The subjects discussed were appropriate to the season, which, being a peculiar one, brought new experiences to many. Much swarming and little surplus honey is the exception to the rule in Iowa. There seemed to be just enough honey gathered to engender much swarming, while with fewer swarms fair returns could have been secured in the way of surplus honey.

How to Control Swarming.

Several plans were presented that had been successfully employed by different members present. It was conceded that a single swarm from one colony was rather an advantage than a disadvantage, as it was possible to have the benefit of 2 colonies instead of one when the real harvest came. Upon this theory Mr. Chantry suggested that it was his method to work for increase until July, and then have the several colonies, instead of one, ready for the fall flowers; it being understood, however, that he is entirely dependent upon the fall bloom for his honey crop. Ordinarily, or in most locations, this method was deemed impracticable.

Mr. Kimble said he thought that he could secure the best results by having about one-third increase; and in response to a number asking the question as to whether it was possible to confine his colonies to a certain number, he thought that he would have to depend on at least that much increase.

Mr. Secor stated that he practiced hiving the first swarms on the old stand, and removing the parent colony to a new location. He found that this in most cases brought about the desired result. Others suggested cutting out queen-cells, etc., which they found quite satisfactory, although it required more labor.

It was found that even this season, that those who were able to control swarming, had a fair yield of honey to report. Mr. Secor stated that up to that date, which did not include the fall honey, or at least very little of it, that his colonies averaged about 40 pounds each, of comb honey. He believed that bees should be made to pay their way in *any* season.

Honey from Different Flowers.

In discussing this subject, Mr. Bittenbender stated that it was his observation that bees never gathered nectar from different kinds of flowers in a single trip.

Mr. Secor said that he noticed at different times that some of his colonies would be storing one kind of honey, while others in the same apiary would be storing another kind.

The question arising that different kinds of honey were noticeable in the same comb, was explained by the fact that different flowers would secrete nectar at different times in the same day, and in such cases bees, unlike some human beings, would not lie idle for a favorite job; or, in other words, would not wait for a favorite flower to secrete honey.

The Use of Honey-Boards.

All that were present favored the use of honey-boards, whether working for comb or extracted honey. While poor queens will sometimes lay in the sections, and very little in the brood-chamber, such cases were more frequently the result of not using the honey-board. One of some description was highly indorsed, whether it was queen-excluding or not. Even if not queen-excluding, it would largely prevent this difficulty when working for comb honey. Queen-excluding boards were recommended where extracting was done, and many favored them in any case.

Danger to Bees in Extracting Late.

In reference to this subject, it was seen by a number of reports to have been the cause of heavy winter losses. It was conceded that a reserved store of honey should be preserved where close extracting was practiced. A sufficient number of sealed combs of honey, and of a good quality too, should be put away for this purpose; and after the honey season was over, it

should be placed in the center of the brood-chamber for the winter supply of food for the colony.

A committee was selected for arranging a programme for the next meeting. It is proposed to make that meeting one of the grandest in the history of the Association, and it cannot fail in its aims, having as co-operative workers the most enthusiastic, practical and able apiarists in the country. An announcement of the programme and time of meeting will be made in due time, in the different bee-papers.

Des Moines, Iowa.

FUMIGATION

With Sulphur—Sting-Trowel Theory.

Written for the American Bee Journal

BY DR. C. C. MILLER.

I was a little surprised, on reading page 603, to find that one who appears to be so close an observer as Mr. Pierce, should hold views concerning sulphur, that, according to my experience, are erroneous. He is entirely right in saying what is not generally said (and perhaps it is not generally known), that after worms have obtained a good foothold, it is very difficult to kill them with sulphur.

I have had combs in which the worms have abounded, from those of small size to those of full grown, and after subjecting them to a very dense smoke of sulphur for a long time, the "fat old chaps" seemed to be none the worse for their smoking. Such combs, I think, I would not try to cure with sulphur. The cheapest and easiest way, probably, to dispose of them is to give them to the bees to clean out.

If it is not at a time when it is warm enough for bees to fly, the worms will not make much headway, and as soon as the worms are frozen, that is the last of them. If only a few worms are in a comb, and they are half-grown or larger, it is no very difficult matter to pick them out with a wire nail. But for the worms that are very small—and we never need wait for them to get large—the fumes of burning sulphur are very effective.

My experience has been almost entirely in fumigating comb honey in sections, and for that purpose sulphur may almost be said to be preventive, rather than curative, for the worms should be killed when they are hardly large enough to be seen by the naked eye. If a section be fumigated within two weeks after its removal from the bees, and then two weeks later, I think there need be little anxiety about the worms.

Having used a good many pounds of sulphur during a number of years, I think I may speak with some authority upon the subject, and I trust that Mr. Pierce will take it kindly when I say that I think he is mistaken on two points: first, as to the difficulty of regulating the combustion of sulphur, and second, as to the necessity for burning sulphur in connection with some carbonaceous substance. With regard to the latter, I may say that I never burn anything in connection with sulphur, simply lay a lighted match upon the sulphur, and there is no difficulty about the dim, blue blaze continuing as long as a grain of sulphur remains.

As to the difficulty of regulating, especially when a large amount is used, let me give a bit of my experience in a previous year:

I had a lot of sections piled in a room about 15 feet square, and concluded to smoke the whole room. So I lighted 5 pounds of sulphur early enough in the day so that I thought it would all burn before night, and kept occasional watch of it through a window. At dark it was burning apparently the same as when first lighted, and at bedtime the same. Although I thought it entirely safe, I never feel that I can be too careful about fire, so I concluded to sit up with it until it expired. I did not get to bed until after 1 o'clock.

My method of using was this: The sulphur was put in an iron kettle holding about a gallon. A common kettle holding 3 or 4 gallons was partly filled with ashes, and in this the smaller kettle containing the sulphur was placed, and over all a tin cover that did not fit closely. I suppose this cover allowed plenty of air to enter to keep up combustion, but made it burn slower than if entirely uncovered. Previous to covering, a lighted match was laid on the sulphur, and that was all the attention it received except the watching, and no doubt it would have burned just the same if I had been a mile away.

I do not think that roll brimstone would act just the same, but I suspect a part of it mixed with the powdered sulphur might answer. The cost is so little that I have always used it in the powdered form.

Bees Stinging the Capping of Cells.

Referring to "replies" on page 598, allow me to correct Dr. Mason and the Editor. Dr. Mason thinks that the man who believed that the bees did the capping with their stingers, never subscribed for a bee-periodical. Now Doctor, that idea originated with the Rev. W. F. Clarke, and was first promulgated in the bee-papers and his book, unless I am very much mistaken, and your man's believing it, was just so much proof that he *had* been reading the bee papers. The Doctor may be surprised at the man's belief, but a little thought will convince him that there is nothing surprising in it.

The statement was given in all soberness in the columns of our bee-papers, and coming from a respectable source, why should it not be believed? If I remember rightly, it passed entirely unchallenged for a considerable length of time, and to this day I think not more than three individuals ever denied its truth, and not a single one of our editors ever said he thought it was not true. Why shouldn't the man believe it?

If the Doctor refers, not to the sting-trowel, but to the injection of formic acid after the cell was filled with honey, the case is not different, but still stronger, for I do not remember to have seen that stated elsewhere than in the bee papers. The last place I remember seeing anything of the kind was in the *British Bee Journal* for Aug. 23, where, on page 409, Dr. A. von Planta quotes approvingly Dr. Muellenhoff in No. 6 of the *Eichstaedt Bienenzeitung*, where he says, on page 61, "When the cell is nearly filled, and the honey is not intended for immediate consumption, the bees add a *drop of the secretion of their poison gland.*" Now we ought to know positively whether this is true or false. Somewhere, lately, Prof. Cook has called it in question—I mean aside from his answer in the present case—but I do not remember whether he says positively it is false, or simply that he does not believe it.

The Editor is in error, I think, in attributing the sting-acid theory to Rev. W. F. Clarke. I think it came from a number of sources, and it might be difficult now to determine who first started it. Mr. Clarke is "sponsor" for the "sting-trowel" theory—at least I do not know that any one else in this country has said he knew it was true, unless it be Dr. Mason's friend, although I have been told that the idea first had birth in France. Mr. Clarke, however, says he became satisfied of its truth as the result of observations. I seriously question whether Mr. Clarke ever made any observations that warranted him in giving utterance to the sting-trowel theory as a positively ascertained fact.

Marengo, Ills.

[If the editor was in error in the statement made on page 598 in answer to Query 575, our friend, the Rev. W. F. Clarke, will be very ready to show it. Editors are not always right, especially when they try to find "fathers" for waifs, or the offspring of fertile brains.—ED.]

CALIFORNIA.

Honey Production on the Pacific Coast.

Written for the Riverside Press

BY FRED. L. ALLES.

Throughout Southern California, for a distance of 300 miles, the Coast Range of Mountains is spotted with little canyons upon whose sides may be found a hundred varieties of wild flowers. Here and there rises an occasional live-oak or a clump of low growing pines. The body of this living carpet, covering the acclivity of the Temescal range, the San Jacinto mountains and the lower edges of the Sierra Madres, is composed of all the colors of the rainbow, and varies with the months and seasons, while heaps of gray old boulders, jutting clumps of sandstone and granite, and masses of chaparral, grease-wood and mesquite, with their neutral tints, give the eye relief from the too brilliant color surrounding them.

These canyons are the sources of the water supply for the valley vineyards

and orchards, and are the homes of the bee-masters of a land litterally "flowing with honey."

Bee-farming in California bears little resemblance to the same industry elsewhere, on account of the novel difference in the seasons. Instead of making provision for long and cold winters, the bees are able here to gather nectar from New Year's Day to Christmas, and the bee-master takes out honey during eight months of the year. During January, February and March the orange and lemon trees of the valley orchards, and the wild acacia and eucalyptus (Australian blue-gum) are all in bloom, and furnish a fair quantity of nectar, but the larger part of this is consumed by the bees, and it is not the custom to take this from the hives. The so-called "orange-blossom honey" sometimes seen on the market, is not made from orange-blossom nectar at all, and is so labeled with intent to deceive.

Early in February the native sheep-grass, alfilerilla, furnishes an abundance of bloom, which makes a good honey of amber color, but not so good as that made from black sage, which blossoms later in the same month. This sage grows in the lowest valleys, and on the side of the mountain ranges in all parts of California, and is the best plant for bees, because its nectar gives them heart and vitality at a season when they most need it. The honey from it is of a fine color and strong body.

Early in June appears the best of all honey-producing plants—the white and silver sages. No flower in the world produces a clearer white, pure nectar than California silver sage. Eastern white clover and basswood (American linden) are splendid honey-producers, but both are inferior to the silver sage in making an article of delicious flavor, good body, and clear as pure water. These sages bloom usually during the entire month of June, and then comes the wild buckwheat, which has a blossom resembling the cultivated plant, and furnishes a honey of good quality and rich, amber color.

Early in July the wild alfalfa appears, and soon after the wild sumac opens its large clusters of creamy-white flowers, and both are exceedingly rich in a delicious nectar. The wild mignonette is in bloom during the same period, and the bees never seem to tire of hovering over its perfumed flowers during their short period of bloom.

The golden-rod throws up its brilliant yellow flower spikes in July and and August, and continues in blossom until Christmas. It is similar to the plant of the same name growing in the Eastern States, and is one of the most valuable of California's long list of honey-producing plants.

This list includes nearly 200 plants, but many of them bloom for only a short period, every fortnight showing a new combination of colors on the hillsides. The nectar gathered from all the different flowers is not separated by the bee-master. The aim is only to keep the light, silver-sage honey apart from that of darker color gathered earlier in the season from the alfilerilla and black sage, and afterward again from the amber honey of the wild buckwheat, sumac and golden-rod.

The process of preventing the mixing of the honey by the bees is very simple, the bee-master watching the season of the different flavors, and taking the honey from the combs as the season progresses.

California liquid honey, as it leaves the bee-master, is always pure. Sugar, glucose, and all other possible adulterations cost more per pound than the pure honey is worth on the ranch.

TIERING-UP.

Results of the Season—Doubling Up Swarms.

Written for the American Bee Journal

BY H. C. GIFFORD.

I will now give a statement of my summer's work and the results. About July 1 my 20 colonies of bees had not 5 pounds of honey to the hive. I have practiced the tiering-up plan, some of them 3 tiers high, making 81 one-pound sections per hive. I have taken off 1,350 pounds of honey, and have about 450 or 500 pounds yet to take off, or about 1,800 pounds from 20 colonies, besides increasing them to 27 colonies. At the present time all are in good condition, and the hives well filled with honey. I have doubled up some swarms, returned some second swarms, and have had no trouble with their coming out the second time.

My bees never did as well as they have since July 5. I have read very many big stories in the BEE JOURNAL, and some of them I rather doubted, so I need not be surprised if some doubt what I may say about one of my new swarms; but it is true, and I think it has been of great benefit to me, for I intend to practice it next summer, if I live.

Experience with Two Swarms.

About Aug. 5, a large swarm came out, and settled on the grape-vines near the hives. I hived them, but when about three-fourths of them were in the hive, another swarm issued, and came right to the hive where I was working. I let it stay until about one-half of them had settled in my new hive, which I immediately carried to a stand; the rest flew around awhile, and then went back to their old home.

It seemed that all the bees could not get into the hive, so I put 48 sections on top, and they all went in. After awhile I put on 24 more sections, and on Sept. 15, I took off the three tiers, which weighed 78 pounds, and the hive is now full from top to bottom, which cannot be less than 60 pounds, and perhaps 80. This was all stored in about 40 days.

The above statements are facts, and I intend after this to put two swarms together whenever I can. One strong colony is worth three small ones, and is not so much trouble or expense.

My neighbors call me an "expert" in the bee-business, but this summer's experience teaches me that I am only in my A B C's. What I have learned I have gotten from the AMERICAN BEE JOURNAL. My neighbors have no honey to speak of, except Wm. Johnson, who works by the same method that I do. I sell my honey at the stores, at 18 cents per pound, and I tell them to sell it at 20 cents. I will have no trouble to sell my crop, although some who have a little honey bring it in and sell it for what they can get, which ranges from 12½ to 16 cents per pound.

I send my membership fee for the "Union." It would look selfish to me not to belong to the Bee-Keepers' Union, when I have received so much benefit from the experience of those who do belong to it; but I have such good luck with wintering my bees on the summer stands, that I shall not try the cellar yet. I box up the hives and pack them with straw, leaving an opening in front 6 inches long and 3 inches high, which I can close up at any time. I pack the caps with straw, and cover them well on top to keep them dry.

Morris, Ills., Sept. 24, 1888.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Hastings' Perfection Feeder.—This excellent Feeder will hold 2 quarts and the letting down of the feed is regulated by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c.
Sep. 12. R. A. BURNETT, 161 South Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 17@18c.; 2-lbs, 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8¼c.; buckwheat, 5½@6½b.; California extracted, white sage, 7½@7¾c.; amber, 7¼@7½. Demand good and prices firm. New comb honey is arriving quite freely.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Sep. 26. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 11@12½c.; 2-lbs., 12½@1 c.; amber, 8@10c. Extracted, white, 5¾@6c.; light amber, 5¼@5½c.; amber and candied, 4¼@5c. Receipts light and market firm for best qualities.
BEESWAX.—Dull at 19@22½c.
Sep. 22. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white comb, 17@18c.; dark, 16c.—Extracted, 8@10c. Market bare of all kinds.
BEESWAX.—21@22c.
Sep. 24. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 4½@8c. per lb. Comb honey, 12@16c. Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Sep. 18. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices firm, and stock light.
BEESWAX.—None in market.
Aug. 29. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@7½. California white in 60-lb. cans, 8c.; light amber in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.
Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON.

HONEY.—We quote: New 1-lb. sections, 18@20c.; 2-lbs., 14@16c. New extracted, 8@10c.
BEESWAX.—25 cts. per lb.
Aug. 24. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—We quote: New white 1-lbs., 18c.; light 1-lbs., 16c. California white 1-lbs., 18c.; light 1-lbs., 16c.; white 2-lbs., 16c.; light 2-lbs., 14c. Extracted, white, 8c.; amber, 7c.
BEESWAX.—18@20c.
Sep. 5. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, 4½@5½c.; If in cans, 8@9c. White clover comb, 14@15c. Market is steady and receipts light.
BEESWAX.—21c. for prime.
Sep. 6. D. G. TUTT & CO., Commercial St.

MILWAUKEE.

HONEY.—New white 1-lb. sections 18c., and very fine, 20c.; 1-lbs. 15@18c.; old 2 and 3 lbs., not salable, 12½@14c.; dark 1-lbs., old or new, 12@13c. Extracted, new white in kegs and ½-barrels, 8@9c.; old, in same packages, 7@8c.; in tin, 8@9c.; dark in barrels or ½-barrels, 6@6½c. Arrivals of new crop small; demand not urgent, and only very moderate trade.
BEESWAX.—22@25c.
Aug. 31. A. V. BISHOP, 142 W. Water St.

Conventions.—The time for holding Bee-Keepers' Conventions has now arrived, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25. It also contains a lot of blank leaves on which you can note important matters as they come up. Do not fail to send for a copy of it.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

We Have some copies of the old edition of Cook's Manual left, which we will sell at the old price, $1.25. The price of the new edition is $1.50 per copy; a notice of which may be found on page 579.

Queens.—We can mail a Tested Italian Queen (bred for the best results as well as for beauty) for $2.00; Untested Queens $1.00 each, or $9.00 per dozen. Orders solicited.

The Latest catalogue for this year is that of T. S. Sanford, New Castle, Pa. It has 4 pages, and includes bees and supplies.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one yeaar—we send both for $1.50.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

Advertisements.

BEES to Give Away.—75 Colonies of hybrid Bees in Langstroth hives. Plenty of honey for winter. Will sell the lot for what the hives and honey are worth. Address,

I. W. ROLLINS, Elgin, Wabasha Co., Minn.
Mention the American Bee Journal.

Pure Italian Bees,

ONLY $3.00 per Colony QUEENS, $1.00. Address, S. F. REED,
39A3t NORTH DORCHESTER, N. H.
Mention the American Bee Journal.

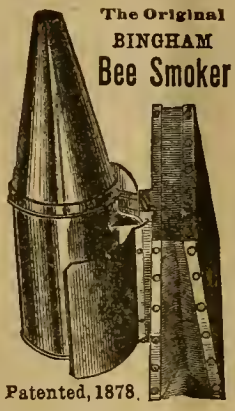
CARNIOLAN

Gentlest bees known; not surpassed as workers even by the wicked races.
Imported Queens, "A" grade, $6.00, Tested, $4.00; Untested, $1.00.

QUEENS.

One-half dozen $5 00
Never saw foul brood. Cash always required before filling an order.
S. W. MORRISON, M. D.,
Oxford, Chester Co., Pa.

☞ I am now able to supply the demand for **Ambrozic Stock,** having receive a Queen of him, and can send either Ambrozic or Benton stock by return mail. I have now **VERY FINE QUEENS.** 14Etf



The Original BINGHAM Bee Smoker

Patented, 1878.

ADDISON, Vt.—Have one of your smokers good yet—used 6 years. E. J. SMITH.
ELM GROVE, Mass.—Have one I have used six seasons—good yet. F. M. TAINTOR.
BORODINO, N. Y., Aug. 15, 1882.—All smoker it has been "which and t'other" with me and the Cyprian colony of bees I have—but at last I am boss—Bingham's Conqeror Smoker did it. If you want lots of smoke just at the right time, get a Conqueror Smoker of Bingham. G. M. DOOLITTLE.

Bingham & Hetherington Uncapping Knife.

Patented May 20, 1879.

BINGHAM SMOKERS and KNIVES have Revolutionized the Smoker and Knife Trade, and have made bee-keeping a pleasure and a success. They are the only **lasting** and **satisfactory** Smokers and Knives now used by experienced bee-keepers in Europe, Australia, Cuba, and America. They are covered by patents, and while they are always the **best** that can be made, they are also the **lowest priced.**

Prices, by mail, post-paid.

Doctor smoker (wide shield)	3½ inch		$2 00
Conqueror smoker (wide shield)	3	"	1 75
Large smoker (wide shield)	2½	"	1 50
Extra smoker (wide shield)	2	"	1 25
Plain smoker	2	"	1 00
Little Wonder smoker	1¾	"	65
Bingham & Hetherington Honey Knife, 2 inch			1 15

TO SELL AGAIN, apply for dozen or half dozen rates. Address,

BINGHAM & HETHERINGTON,
5Atf ABRONIA, MICH.
Mention the American Bee Journal.

Jones' Frame Pliers.

FOR taking frames ont of hives, or moving them in any way desired. It is made of Japanned iron, and can be utilized in many ways. It has a long claw for loosening frames, and a hook which may be used for carrying other frames besides the one held by the Pliers. Price, 40 cents., by mail. By express, 30 cents.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

BEE-KEEPERS' SUPPLIES.

HIVES, Sections, Foundation, Smokers, Frames, Crates, &c., furnished at greatly reduced rates. Also **ITALIAN BEES and QUEENS** at very low prices. Send for my Catalogue. Address,

A. F. STAUFFER,
29Ctf STERLING, ILLINOIS.
Mention the American Bee Journal.

HEAD-QUARTERS IN THE SOUTH.

FACTORY OF

BEE HIVES, &C.

Early Nuclei & Italian Queens.
☞ Tenth annual Catalogue now ready.
5Ctf PAUL L. VIALLON, Bayou Goula, La.
Mention the American Bee Journal.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

Barnes' Foot-Power Machinery.

Read what J. J. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make and we expect to do it with this Saw. It will do all you say it will." Catalogue and Price-List Free. Address, W. F. & JOHN BARNES,
45Ctf No. 484 Ruby St., Rockford, Ill.
Mention the American Bee Journal.

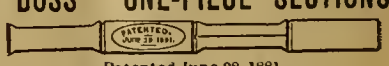
We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

J. FORNCROOK & CO.,

MANUFACTURERS OF THE

"BOSS" ONE-PIECE SECTIONS,



Patented June 28, 1881.

WILL furnish you, the coming season, ONE PIECE SECTIONS as cheap as the cheapest.
☞ Write for prices.
Watertown, Wis., Jan. 1, 1888. 40C3t
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Oct. 10, 1888. No. 41.

CONVENTION BUZZINGS

The Earnest Man of the Convention was the son of friend A. I. Root.

The "Bees and Honey" Building on the Centennial grounds was a great attraction on Friday.

The Next Session of the International is to be held in Brantford, Ont., and Mr. Holtermann, editor of the *Honey Producer* of that place, is the Secretary.

Father Langstroth has taken a severe cold, and is again unable to leave home. For that reason his promised essay for the North American Convention was among the missing.

The New Constitution of the International Society was adopted on Thursday evening, as laid over for consideration at the last meeting. We hope that it will be a means of increasing its usefulness.

Mr. J. Y. Detwiler, from Florida, had some very fine samples of mangrove honey at the convention. It was fully equal to white clover honey, and we do not wonder why he objects to its being quoted in the honey markets as "Southern honey," and priced by the gallon. It should be quoted separately as mangrove extracted honey, and priced by the pound, like other kinds of equal quality and value. Mr. Detwiler was not located in the yellow fever district, but he found it difficult to leave the "stricken State." He will spend a few months in Toledo, O., where he formerly resided. He is an enthusiastic apiarist.

The North American Convention at Columbus, O., was a small but a very enthusiastic annual gathering of the bee-keepers of the Continent. Some seven States were represented, and our friend Holtermann, of Brantford, Ont., represented the Province of Ontario, Canada. It convened last Wednesday morning, and held six sessions. Then, as it was generally desired by those present to visit the Centennial grounds to view the attractions there presented, including the bee and honey show, the last day was spent on those grounds in social and fraternal intercourse, while examining and commenting upon the exhibits of bees, honey, and apiarian supplies.

Some of the principal exhibitors were A. I. Root, Dr. A. B. Mason, Dr. H. Besse, Dr. G. L. Tiuker, Mr. McPherson, etc.

The honey exhibit was very fine, and conferred credit upon all the exhibitors, many of whose names we cannot now recall.

Mr. Root's exhibit of apiarian implements was large and varied, covering almost everything used advantageously in apiculture. In the "Power Hall" Mr. Root had his machinery running which makes one-piece sections complete, from the wood in the rough. The saws make such fine work that the sections looked as though they had been sand-papered. It is a triumph in the art of making sections to have them beautiful as well as useful. To say that in workmanship they were fully equal to those four-piece sections made by Dr. G. L. Tinker, is no small praise, for the Doctor's work has heretofore excelled almost everything presented in that line.

The magnificent coliseum building on the grounds is a marvel. It is said to hold ten thousand persons, and seat about six thousand. The speaker can be distinctly heard anywhere in the hall, so perfect are the acoustics thereof. It is about 250 feet across, and 100 feet in height.

Our visiting company consisting of Mr. A. I. Root, Dr. Miller, Mr. McLain, Dr. A. B. Mason and ourself. We prevailed upon Dr. Miller to play the organ and sing several pieces, accompanied by the rest of the party. We went to the further side of the hall, and we could hear the words distinctly—but we cannot enumerate all the things which were very attractive to us.

Mr. Ernest Root, son of A. I. Root, an estimable young man, was accompanied by his charming and affable wife. He had with him his instrument for taking instantaneous photographic views, and it was well employed. He "took" the members of the convention, the bee and honey building on the grounds, and several views of the exhibits.

Lady Members to the number of a dozen were in attendance at the Convention at Columbus. We will give the list next week. We regret to say that Mrs. L. Harrison was absent on account of poor health.

The Horticultural Society was in session at Columbus at the same time, and in the same building as the Bee-Convention, and we record the fact with pleasure that both societies worked very harmoniously. Mr. Devol, Secretary of the Ohio State Horticultural Society, was introduced to the Bee-Keepers' Convention by the Editor of the AMERICAN BEE JOURNAL, and in behalf of the horticulturists, he extended an invitation to all the bee-keepers to attend a meeting of the Horticultural Society, which was then in session in the Senate Chamber. The Convention received Mr. Devol with much applause, and by vote thanked the horticulturists, and accepted their fraternal invitation.

Upon entering the Senate Chamber we found the horticulturists engaged in a discussion concerning the fructification of fruit-bloom by insects. The bee-men were invited to take part, and they did so. The result is that it was generally agreed that the bees and other insects performed very valuable work upon the flowers, by fertilizing them, and thus increasing the fruit.

Several of the horticulturists mentioned the fact that the bees were often heard "roaring" over the bloom of the strawberries. Upon being asked if there was any noticeable difference between their "roaring" over the Crescent and Wilson varieties, it was answered in the negative. Some people had "notions" about their being a difference, but none were discovered upon close examination.

We are glad to note a growing friendliness among fruit-growers towards their special friends—the bees. We shall do all we can to foster and encourage such a desirable result.

Eight States were represented at the Inter-National Convention. The following are the officers elected for the ensuing year:

PRESIDENT—Dr. A. B. Mason, Auburndale, O.
VICE-PRESIDENTS—Thos. G. Newman, Chicago, Ill.
Prof. G. W. Webster, Lake Helen, Fla.
Joseph Nysewander, Des Moines, Iowa.
R. L. Taylor, Lapeer, Mich.
O. L. Hershiser, Jamestown, N. Y.
Martin Emigh, Holbrook, Ont.
Frank A. Eaton, Bluffton, Ohio.
F. Minnick, Bessemer, Wis.
SECRETARY—R. F. Holtermann, Brantford, Ont.
TREASURER—Dr. C. C. Miller, Marengo, Ills.

Singing was made a feature of the convention in Columbus, O. Dr. Miller is an organist, and had composed the music for two bee-keepers' songs, which were written by that poet-laureate of bee-men—Mr. Eugene Secor. Mr. A. I. Root, of Medina, O., had them printed and freely scattered at the convention. The result was some lively singing to introduce the *work* of each session. We think that no vote of thanks was offered to these gentlemen—wholly due to thoughtlessness, not to ingratitude—and we now propose such a hearty vote by the larger convention made up of absentees. That all may vote understandingly, we hope to publish both the music and words of one song in our next issue.

GLEANS OF NEWS.

Uses of Honey.—In the *Orange Judd Farmer* we find the following interesting item on the uses to which honey is now frequently put. The superior value of honey in the "sweet manufactures" of the day is just beginning to be appreciated; and when consumers once realize its excellence as a substitute for sugar, and its comparative inexpensiveness, honey will then occupy its proper position—not only in medicine and the culinary art, where its use would bring health and happiness to all, but also in the manufacture of luxurious confections. The item referred to reads thus:

In all ages honey has been used for many purposes. The Ancient Britons used it to make mead, and this drink continued to be much used hundreds of years after them. When malt liquors became popular, and when sugar was introduced, the uses of honey went down for a time, but of late years it has gone up again with a bound. Honey is largely used in the manufacture of honey chocolate creams and honey chocolate tablets. There is a delicious taste of the honey in these articles, but they are so judiciously blended with the other materials that they are not too sweet. Honey is also now largely used by the confectioners in the place of sugar in many kinds of lozenges, cough drops and other sweetmeats. Glycerine and honey jujubes for the throat; corn and honey food; herbal tablets, etc., are only a few of the many things which might be mentioned. The toilet is not left out, as it is used in soap and dentifrice. Doctors use it very largely for many purposes, and many doctors are amongst our most successful bee-keepers, and thus the purity of their medicines may be guaranteed. There are many persons who are not allowed to use sugar at all; to these honey comes as a boon. It is a curious thing to note that even the angler now uses honey, and natural honey fish bait is put down in the list of necessaries for the modern complete angler. What would old Isaac Walton say to this?

Prof. N. W. McLain, of the Government Experiment Station at Hinsdale, Ills., has been appointed superintendent of the Apiarian Exhibit of the Paris Exposition to be held in April, 1889, and he is now making preparations to gather together the largest and best exhibit of bees, honey, apiarian supplies, implements, and their processes of manufacture, that has ever been made. Let us all help him to make up the exhibit, and thus show the world what we can do.

Winnebago County, Iowa, held its first fair the last week of September, and it was a success, the display in every department exceeding all expectations. Mr. Eugene Secor—one of our valued correspondents—is the President of the Agricultural Society, which fact of itself should have insured a successful outcome of the fair. Mr. Secor and W. W. Wright made a fine display of honey, which attracted a good deal of attention, and Mrs. Secor made a good showing of canned fruit.

Mr. R. McKnight, of Owen Sound, Ont., on Sept. 29, 1888, writes as follows concerning the exhibit of honey which he made at the Toronto Industrial Exhibition:

I send you a photograph of my honey exhibit as shown at the Industrial Exhibition at Toronto recently. It took the special prize of $50 for its general "get up," apart from the quality and quantity of the honey.

My aggregate prizes on this exhibit amounted to $87—the most taken for honey alone, by any one here, up till the present time.

The photograph shows the end and one side of the exhibit. The extent of space it covers is 16x4 feet, rising to 4½ feet from the stage at the back end, with a uniform ascent from front to rear.

The photograph referred to by Mr. McKnight is an excellent one, showing a very creditable and finely-arranged exhibit of honey, both comb and extracted. Among the numerous nicely-labeled glass cans and jars of honey are placed a number of pots of beautiful flowers, which adds much to the attractiveness of the display. Such exhibits of the products of the apiary will do a great deal toward familiarizing the general public with the results of the labors of the bees and their keepers, and also bring to the attention of interested spectators this unexcelled food product—honey—in its various forms. Thus will the apiarists not only develop a good home market for their production, but at the same time they will contribute no little to the health and happiness of others.

A Young but promising apiarist of Virginia has passed away. We refer to Mr. Samuel B. Wood, eldest son of Mr. Daniel T. Wood, aged 23 years. He died at his father's residence after a lingering illness of consumption, on Monday, Sept. 9, 1888.

When at College his health became impaired, and three years ago he relinquished his studies, left College, and commenced to keep bees. He was very successful, and would have become a distinguished apiarist in time. The Winchester *Times* says:

He was an exemplary young man, and had won the esteem and admiration of many friends by his Christian demeanor and attractive manners. His death is deplored by all who knew him. To the sorely bereaved parents and family we tender our sympathies.

He was buried on Sept. 12, from his father's residence at Mount Hebron, three miles south of Jordan's Springs. The funeral procession was a very long one, showing that he had many friends.

Mr. T. B. Blow, one of the most progressive apiarists of England, is now in America, on a visit. He sailed on Sept. 19 from Liverpool to New York, in the steamship "City of Rome." He intends to visit some of our principal bee-keepers. As Mr. Blow is well acquainted with the portions of Europe and Asia from which we obtain the Eastern races of bees, his company will be very entertaining.

Farmer De Forest's Birthday Bees.—Cyrus De Forest owns a farm in North Wilton, on the Danbury branch of the Housatonic railway. On his birthday every May a swarm of bees come to his place and take refuge between the floor and the ceiling of his house. All efforts to keep them out have failed, and it has not yet been discovered how they gain an entrance. At the end of the season the floor is taken up and the honey is gathered. Last year Mr. De Forest got 94 pounds, and this year his crop was 76 pounds. The remarkable facts of the case are the regularity of the appearance of the bees. Last year was the one exception in several years, they coming one day earlier than usual. The bees are killed every year, but a swarm takes their place the next season.

A correspondent sends us the above for publication. It is evidently one of the "yarns" now going the rounds. It is very unlikely they should come "every May," on his birthday, even if it did once happen.

The Toronto Honey Exhibit.—In the *Canadian Honey Producer* for October is given a list of the exhibitors and their exhibits, with the amounts secured in preminms, besides diplomas. From that list we glean the following, the judges being J. F. Dunn, Allen Pringle and W. McEvoy:

For various exhibits R. McKnight, of Owen Sound, secured $37 in premiums; R. F. Holtermann, of Brantford, $42.50; R. H. Smith, of Bracebridge, $30.50; E. L. Goold & Co., of Brantford, $23; Will Ellis, of St. Davids, $8; Mrs. John Wilson, $2; and J. Spence, of Toronto, a silver medal. Mr. R. McKnight received, in addition to the premiums, $50 "for the most tasty, attractive and neatly-arranged exhibit of honey in the apiarian department, all the honey the production of the exhibitor." Half of the prize was given by the Ontario Bee-Keepers' Association. Although the season had proved disastrous to the bee-keeper, the exhibit on the whole was very creditable, indeed.

The Rhode Island Bee and Honey Exhibit is thus mentioned by the Providence *Journal* of Sept. 26:

There are six entries, the largest of which is by Samuel Cushman, of Pawtucket. He has six hives of bees, showing strong colonies of the best working strains of Italian, Syrian, Carniolans and natives. He has also an exhibit of hives, winter hives, comb honey hives, and hives for extracting the honey. He has also a large cage showing a swarm clustered in their natural state.

In this exhibit there are 1,200 pounds of the best Vermont comb honey, and 200 pounds of extracted honey, extracted by centrifugal force, with an extractor on view.

A. C. Miller, of Drownville, ex-Secretary of the Rhode Island Bee-Keepers' Association, has an exhibition of comb honey, extracted honey, honey vinegar, and observatory hive of bees, light comb foundation, a machine for placing the foundation in the supers, and specimen hives for the production of comb honey.

Mrs. S. M. Lackey, of Providence, shows observatory hives, samples of wax, comb honey, extracted honey, and an extractor.

Sam Warren Lewis shows 200 pounds of extracted honey in glass, 10 pounds of comb honey, and the largest display of beeswax, one cake of which was made 31 years ago.

S. A. Dexter shows an observatory hive, showing the production of comb honey.

QUERIES & REPLIES.

Breeding so as to Eradicate the Swarming Propensity.

Written for the American Bee Journal

Query 582.—Can a strain of bees be improved by careful breeding, which will have bred out the propensity to swarm?—Ohio.

I doubt it.—EUGENE SECOR.

We think not.—DADANT & SON.

I think so, most assuredly.—A. J. COOK.

I think so, to some extent.—J. M. HAMBAUGH.

Possibly, but I think that it would be a long job.—C. C. MILLER.

I do not think that the swarming propensity can ever be bred out.—J. P. H. BROWN.

It is possible to improve bees by careful breeding.—H. D. CUTTING.

I think so, but it would take a very long time.—R. L. TAYLOR.

I do not know; but I would like such bees if as good in other respects. —C. H. DIBBERN.

Oh, yes. You can breed toward almost any desired mental or physical standard, but practically I think you had not better spend much of your time trying to breed out the propensity to swarm.—JAMES HEDDON.

By careful selection of breeding-stock, the propensity to swarm can be diminished.—M. MAHIN.

They may, but I think it is doubtful; hens have been bred that lose the propensity to set.—MRS. L. HARRISON.

No doubt of it. Chas. Dadant & Son have nearly accomplished it, aided by their large hives.—J. M. SHUCK.

No one can tell. Theoretically it can, but I think that it would cause injury to so breed. See *Gleanings* of 1883, for an article on that subject.—J. E. POND.

I live in Ohio, but I do not know of any such bees in the State, and I do not believe that there ever will be any such here, or elsewhere, for that matter.—A. B. MASON.

No. I have had colonies of bees that did not swarm for four years, but after carefully experimenting without avail, I adhered to my convictions, that it is useless to try to work to change natural laws.—P. L. VIALLON.

I think not. If the desire to swarm under favorable conditions could be bred out of bees, it could only be done at a sacrifice of valuable qualities. I think the only way to breed out of bees the desire to fulfill this mission in the earth, would be to breed downward until no energy was left. I will suggest that if you can breed a strain of bees that always have *young queens*, healthy and strong, you will have a non-swarming strain. But if the queens are to get old, like all other living creatures, you will make a failure.—G. W. DEMAREE.

To the first half of the question, yes; to the other part, I will say that when working for comb honey, you will be apt to get swarms after "careful breeding" for a thousand years.—G. M. DOOLITTLE.

Careful selection, and breeding may very much improve bees, but swarming is their method of increase, and to "breed out the propensity to swarm" is more than one might hope for, or expect.—THE EDITOR.

The Annual Rent of an Apiary.

Written for the American Bee Journal

Query 583.—What annual rent could be profitably paid for an out-apiary of 100 colonies?—Nebraska.

All depends upon circumstances, and it is very hard to answer.—P. L. VIALLON.

Last year and this, it would be the widow's mite.—MRS. L. HARRISON.

So much depends, that I will not try to shed any light.—JAMES HEDDON.

It would depend upon the location and the honey-crop prospects.—J. P. H. BROWN.

It is hard to say. This year, a "goose-egg," as the College boys say. —A. J. COOK.

Ten to fifteen dollars ought to pay the ground rent.—C. H. DIBBERN.

In this locality not a cent, unless the seasons change.—H. D. CUTTING.

Much depends. Lines should be very nicely drawn to decide.—J. M. HAMBAUGH.

I do not know. It will depend wholly on the locality and season, or more particularly on the crop of honey gathered.—J. E. POND.

So much depends upon varying circumstances that I cannot give an opinion.—M. MAHIN.

Annual interest at the current rates upon the cash value of the bees and hives.—J. M. SHUCK.

That depends upon so many minor considerations that I will not attempt a guess.—EUGENE SECOR.

No one could tell without knowing the average yield of the field, and other circumstances.—R. L. TAYLOR.

That depends upon the locality and season. Last year and this, in most localities, any rent would have been too much. Last year Dr. Miller's surplus honey cost him over $2.00 a pound.—A. B. MASON.

It depends upon the location. In a first-class place, say 1,500 pounds of extracted honey, or its equivalent. We would advise the renter, however, to give nothing but *a share of the crop*.—DADANT & SON.

I guess that would depend upon the season. Such seasons as the past two have been, give little margin to the apiarist who has *no* rent to pay.—G. M. DOOLITTLE.

In former years I would have answered that an annual rent equal to 20 per cent. on the investment could be safely and profitably paid; but with the experience of the last three years freshly in my mind, a man would have to pay me a *bonus* equal to 25 per cent. of his investment, to take his bees off of his hands for one year.—G. W. DEMAREE.

So much depends upon the locality, the pasturage near it, the kind of season, that it would be difficult to arrive at a correct way to answer the question. Ten dollars ought to pay the rent in an ordinary season, perhaps.—THE EDITOR.

Convention Notices.

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The next meeting of the Union Bee-Keepers' Association will be held at Clayton, Ills., on Tuesday and Wenesday, Oct. 16 and 17, 1888, in the Town Hall at 10:30 a.m. The Park Hotel will charge $1.00 per day; the restaurants 25 cts. per meal. We expect Messrs Dadant, Hambaugh Camm and other prominent bee-keepers to be present.
S. N. BLACK, *Pres.*

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

CORRESPONDENCE.

DO BEES HEAR?

Have Bees the Sense of Hearing? —Experiments.

Written for the American Bee Journal

BY S. A. SHUCK.

On page 567, I find this sentence: "Many seem to think that bees have the sense of hearing, but so far all of my experiments go to prove to the contrary."

I am very sorry that this statement comes from one whose teachings are so plain and practical, and his logical deductions so nearly without a fault, that it gives me a feeling of regret to believe that he is in error; and notwithstanding the fact that it makes no difference in dollars and cents, to scientific apiculture, whether bees hear or not; if they possess the sense of hearing, it must appear that any one of extensive experience with bees should have discovered this fact.

I am confident that bees possess the sense of hearing equal to that of sight, scent or taste; and if I fail to give satisfactory evidence in support of my position, will some one please to point out my error?

In July, 1882, I attached one end of a silken thread to the waist of a very active virgin queen. The other end of the thread was attached to a long pole, and this pole was held up in the apiary when the drones were flying freely. This queen flew as far as the thread would allow her to fly, and continued her efforts for some considerable time. Then after a short rest, renewed her efforts. This flying and resting by turns, was repeated many times. As long as she continued to fly, the drones pursued here in great numbers, but the instant she stopped to rest, the drones dashed away as if suddenly frightened, appearing again as soon as the queen put forth an effort to fly. Does it not appear that it was the sound produced by the queen's wings that attracted the drones?

Some four or six weeks ago I shook a large swarm from my hiving-box on the ground in front of a hive prepared for them. A few bees remained in the box, and instantly they commenced the "call" to their comrades that were scrambling in every direction to gain a footing. I placed the box under a large Russian sunflower, some 3 feet from the entrance of the hive. I saw the queen take wing from the bees on the ground, and not seeing her return to them, as soon as the bees got started into the hive, I took up the box and found the queen in it.

I do not think that this box, with perhaps a hundred bees in it, smelled more of bees than the 6 or 8 pounds of bees on the ground; and not only this, but it is evident that this queen was attracted more by the humming noise of the few bees in the box, than she was by the scent or sight of the scrambling mass she deserted.

Just as I had shaken a swarm from this box in front of a hive, I discovered another swarm issuing from a hive only about 20 feet distant. The queen of the issuing swarm could not fly, so I knew that the bees would very soon return. I quickly gathered up some dry grass that had been cut from among the hives, and piled it in front, on the two sides and top of the hive the bees were entering, thus covering up the bees that I had just shaken from the box. In a few moments the bees in the air began to return, and just as I had anticipated, commenced tumbling down on this pile of grass, and started right down through it to the loud humming beneath. I picked up a small stick and commenced whipping this pile of grass. This put the bees to flight, and in another moment they were tumbling down at the entrance of their own hive.

The bees under the grass were entering the same hive they had issued from only 10 or 15 minutes before. No change had taken place in the surroundings except the bunch of grass over the hive. There were over a hundred hives in the apiary. The ground is level, and the hives are in rows about 11 feet apart, and 9 feet apart in the rows. One hive faces to the east, and the next one to the south, and I see no excuse whatever, for those bees trying to crawl down through this bunch of grass, except the loud humming noise beneath it.

I have given three examples, one each of drone, queen and worker-bees being attracted by sound. These three instances are only a few of many very similar instances that have come under my observation during the past twelve years. I will now offer some experiments that I am confident will enable any one to prove to his entire satisfaction that bees do hear.

Take a comb with adhering bees from any hive of gentle bees. Be careful not to excite or disturb the bees. Hold the comb before you. Now sing, whistle, hollow or blow a horn, so as to make any kind of a prolonged tone of a musical nature, and of a reasonable degree of loudness, and nearly every bee on the comb will stop to listen. The effect is so striking that no one can doubt it. Do not be afraid of being stung, unless you blow your breath upon them. When the noise ceases, they resume business as if nothing had taken place. I have tried these experiments many times during the past ten years, and I know that the bees will listen while you sing.

I have observed the same effect from the piping of virgin queens, when nearly all the bees of a fair sized colony would listen, while the queen was piping. Please to test this matter, and report through the BEE JOURNAL.

Liverpool, Ills.

LEGISLATION.

A Canadian's Views About Nectar being Public Property.

Written for the American Bee Journal

BY DR. C. C. MILLER.

FRIEND NEWMAN:—I enclose a private letter from one of the prominent bee-keepers of Canada, and I think that I betray no confidence in allowing you to print that part of it which is of public interest, and shows some careful thinking. I am glad to know that I am not so entirely alone as I formerly considered myself, in thinking that *something* ought to be done. After reading the article of Mr. McNeill, on page 586, and the comments thereon, I am strongly impressed that bee-keepers will begin to see the possibility of conflict arising at any and all points, and that certain laws that might perhaps be easily had for the asking, would forever set them free from the danger of litigation that would come without the asking, and require heavy fees before its departure, But here is the letter from Canada:

"I fully believe in such legislation as will enable a bee-keeper, by paying a reasonable sum of money, to control a certain territory. It seems to me that it would be a great mistake, on your part, to admit that the nectar does not belong to the land-owner. The farmer owns the land, pays the taxes, cultivates it, fences it, and, in fact, he is the "lord" of the soil, and I know enough of farming to know that his labor is no mean task, and I confess it would be very difficult to convince me that the whole grass, or rather clover crop, including the roots, stalks, leaves, flowers—yea, and even the very nectar in the blossoms, do not belong to the owner of the soil.

"All and singular, most surely, are the personal property of the land-owner. But at the same time it is quite as clear to my mind that if all farmers or land-owners, if you please, should undertake to keep bees, and gather each his own share of that nectar, each and every one, or nearly so,

would make a miserable failure; and what little honey that might be secured, or should be secured in that way, all costs being computed, would cost very likely not less than one dollar per pound.

"Well, now, it appears to me that the most rational thing in the world would be, for these land-owners to simply sell their right for a term of years to a professional who would, in the most economical method possible, secure that honey, and thus be in a position to supply the people in nice shape, at a minimum price, one of the choicest gifts of a kind and benevolent Father.

"But how is all this to be accomplished, you ask? It is not a difficult matter, in my way of thinking. Simply get a permissive, local-option Bill through your Legislature, empowering the voters of a given locality, the size of which may be fixed by the bee-keeper who may wish to establish, or one who has already established an apiary in such a locality. Then after the necessary legal preliminaries are complied with (which need not be enumerated here), let the matter be decided in the same manner that many other public matters are decided, namely, by the ballot.

"I think that the money could be applied to educational matters or purposes with perfect satisfaction and equity to the people in that particular locality voted to the use of the bee-keeper in question. I believe this scheme would be just to all parties concerned.

"Every land-owner would be remunerated for his own nectar. The bee-keeper would feel that he was not stealing his living from some who think that they have a right to some fair consideration for the nectar that their own possessions produce. He would also rejoice in a sweet feeling of security, that some unwise person cannot now come along and ruin his prospects after he has gone to all the expense of establishing an apiary.

"There would be no difficulty in carrying such a by-law in almost any rural district. Do you not see that nine-tenths of the people never keep bees, nor have they any expectation of doing so? and they would be quite willing to dispose of their share of the nectar to any one who would in turn pay a reasonable sum into the common school fund. Almost any offer that promises to reduce the taxes without inflicting difficulties, will be accepted by the people. Of course some difficulties would have to be surmounted, and details adjusted, but I see no real serious objections to the scheme.

"But on the other hand, if you start out declaring that the nectar is public property—belongs to everybody—I predict that in a short time you will have a lot of fellows pulling your hair in right lusty earnest."

REPRODUCTION

In the Honey-Bee—Interesting Facts About Bees.

Read before the Pa. State Board of Agriculture

BY PROF. GEO. G. GROFF, M.D.

To the naturalist the means by which living beings reproduce their kind is always a subject of interest. Indeed, of all the functions of life, that of reproduction is the most interesting, the most wonderful, and to each species, the most important. Some forms of insects seem to exist in the mature state only that they may perpetuate their kind, and this being accomplished, they perish; the males in the act of fertilizing the females, the female, at once, when the eggs are safely deposited, neither parent ever seeing their offspring.

In all the higher animals reproduction is accomplished through the intervention of the two sexes, the male and the female, but among many of the lower forms of life both male and female are frequently dispensed with. In some cases the offspring pass through so many and so great transformations that it has been exceedingly difficult to trace the whole life history of these strange beings. In some cases the germs of life are so small that their origin cannot easily be discovered, except with the most patient research. This is true of the honey-bee.

A knowledge of the modes of reproduction, and of the laws governing the same, is always of value to the agriculturist and to the naturalist, because in the case of the higher forms he may readily improve his cattle, grains, tubers and fruits by a careful study of and conformity to these laws, as is so well illustrated in the great number of valuable varieties introduced in late years. And also in the case of the lower forms of life, pests and all kinds of animals and vegetable parasites, if their habits, times and modes of reproduction be understood, we may often, with great ease, cut short the career of forms which, undisturbed, would have caused great losses. The different modes of reproduction in the organic world may be outlined as follows, viz:

1. Asexual, divided into Division and Budding, both of which are again divided into Continuous and Discontinuous.

2. Hermaphrodite, divided into close-fertilization and cross-fertilization.

3. True Sexual, divided into Oviparous, Ovaviviparous and Viviparous; the last being again divided into Aplacental and Placental.

The minute animals called animalcules, which live in stagnant waters, in damp places, and in the sea, in many cases reproduce their kind in some "asexual way," *i. e.*, without the intervention of the sexes. Of these asexual methods there are two principal ones. In the first, the body of the parent splits into two or more pieces, which, by absorption of nutrition, rapidly grow into perfect animals. Sometimes the young remain attached to the parent germ, and then we have "continuous" division, and the resultant is a "colony," as is true of sponges, sea-mats and numerous other marine forms. In other cases the young are all set free from the parent organisms.

Budding differs from division, in that the young appear on the sides of of the body of the parents as small buds or enlargements. They remain attached, growing larger and larger, until they become perfect animals in all their parts. When development is completed, they either remain attached to the parent or else are set free to live independent lives, in the first case forming "colonies," as in continuous division. Coral colonies are formed in this way. In some of these lowly asexual forms the young are entirely unlike their parents, and at no period of their lives resemble them. These beings of the second generation bring forth young, which return to the original type, that is, resemble the grandparents. This is called "alternation of generation." Jelly fish are such intermediate forms. Nearly all the lowest plants, as moulds, mildews, blights, etc., are asexual.

The next mode of reproduction is the "hermaphrodite." In this the sexes both exist in the same individual. This is the common mode in the higher plants, the male and the female elements being in the same flower. The common earth-worm is a true hermaphrodite, as is the tape-worm. In the earth-worm we have *cross-fertilization*, that is, two individuals reciprocally fertilize each other, while in the tape-worm, which fertilizes its own ova, it is called "close." Nature generally abhors close fertilization, or, at least, usually contrives that it shall not continue the permanent order of things with any group of beings. Thus, in plants, the fertilizing pollen is carried to distant plants of the same species, by the winds, or by honey-seeking insects.

The highest mode is the "true sexual," in which the sexes exist perfect in distinct individuals. To this group belong fish, reptiles, birds, mammals, and many insects. The lowest class here is the "oviparous," in which eggs

are laid by the female, and then hatched by heat applied externally, as in insects, fish, reptiles and birds.

"Ovaviviparous" animals produce eggs, but these are retained within the body of the female until hatched. This is true of some reptiles. In the "viviparous" mode the eggs exist, but are very minute, and development proceeds within the body of the female.

The "aplacental" animals, opossums and kangaroos, bring forth their young in a very imperfectly developed state, while in the "placental" animals the young are much further developed at the time of birth, as is true of all the domestic animals.

Bees are oviparous insects, in which an egg is laid, which in time hatches into a worm (grub, larva or caterpillar). This, after a time, spins a cocoon, and becomes the quiescent pupa, and after a variable time the pupa changes into the imago or perfect insect. The honey-bee has always passed through all the stages of the egg, the worm, the pupa, and the perfect insect.

In a perfect colony of honey-bees in the summer time we find one queen, a few hundred drones, and several thousand workers, of the last from 10,000 to 40,000. Now, that eggs and worms and young bees are found in bee-hives was long known, but by what means the eggs were laid for a long time baffled the most careful observers. The queen-bee was generally considered the ruler of the colony, and a *male*, hence, in Shakespeare, we read:

"They have a king and officers of state."

And in Virgil, the Latin poet,

"First of the throng and foremost of the whole
One stands confest, the sovereign and the soul."

The naturalist Aristle has left a remark showing that some observers of his time, or possibly earlier, had a clue as to the origin of bees, for he says, "Some say that the rulers produce the young of the bees." About the time of Christ, Virgil, the poet already quoted, gave the following method for replenishing depleted bee-hives:

A young bullock is to be killed by being suffocated. His body is covered with flowers, and allowed to lie in a secluded place until it decomposes. Worms will appear in the putrid mass, which, in time, will hatch into bees, and then if empty hives are near, the new bees will enter the same. Virgil states, however, that this is the method *said to be practiced* in Egypt, but some early English writers gravely recommended the plan as the correct thing to do.

The earliest mention I find of any modern person knowing the true method of bee-reproduction is that of Joseph Warden, physician of Corydon, England, who, in 1617, published a curious and interesting little book, entitled, "The Feminine Kingdom; or, the True Amazons." In this book he tells us that the queen is the one female in the colony, and that she is at once the ruler and mother of all within the hive.

Butler, an English bee-keeper of an earlier date, seems also to have had a correct view of the same matter. Recent students have cleared the matter all up, and we are now able to understand quite fully what so long puzzled our predecessors.

We will consider first the origin of the queen, then of the workers, and last of all, of the drones.

How the Queen-Bee is Produced.

The queen is produced by two methods, which may be termed the *ordinary* and the *extraordinary* methods. As to the ordinary way: In a strong colony of bees, in the months of May and June, and sometimes later (this is for the latitude of Pennsylvania), there will often be found large cells, which on the exterior much resemble ground-nuts or peanuts. These cells are generally at the sides of the combs, though they are sometimes found on the face of a comb. They have thick walls, and an internal cavity much greater than that found in either worker or drone cells.

A peculiarity of the queen-cells, for so there are called, is that *the mouth opens downward*, while all other cells in the hive are horizontal. This arrangement is doubtless made that more room may be secured for the cell, for naturally the combs are placed too close together to build the queen-cells in the ordinary horizontal position. At any rate, queens will hatch from cells placed horizontally. In these cells eggs are placed, by what member of the colony, is not certainly known.

A single egg is placed in each cell, some say by the queen, others think by the workers. A number of careful observers have declared that they have seen the queen in the very act of depositing eggs in these cells. No one doubts that the queen lays these eggs. In time, they hatch into young queens, if the colony is strong, and the weather is favorable; the young queens will be ready to emerge in 16 days from the time the egg becomes a worm. However, if the workers are not ready for the new queen, they will confine her in her cell, feeding and caring for her there.

Under favorable conditions, about eight days before any young queen will hatch out, the old queen leads off a portion of the bees to form a new colony, which, leaving the old home for the new queen, will, in a short time, fully replenish it with bees.

So soon as a young queen emerges from her cell, she makes a tour of the hive, and finding any queen-cells, unless prevented by the workers, proceeds to tear them open and destroy the immature queens. In case the workers prevent this destruction, a second swarm is given off, led by the newly hatched queen.

It is a curious fact, that the queen-bee does not spin a complete cocoon, but leaves one end open, which makes her destruction very easy to any rival. About the only use the queen makes of her sting, is to destroy her rivals with it.

If the weather becomes bad, and the honey-flow ceases, the workers frequently destroy all the queen-cells, thus preventing all swarming for the season. On this plan, modern bee-keepers prevent second swarms, by opening the hives and cutting out all queen-cells.

What we call the extraordinary method follows: Should the queen of a healthy colony be lost through any accident, there being in the colony *worker larvæ* not over three days old, the workers will select some of these worms, destined in the ordinary course of things to become worker-bees, and by enlarging their cells, by assiduous attention, feeding them almost constantly upon a peculiar substance called "royal jelly," will produce, in due time, a number of healthy young queens, one of which, the first to hatch, becomes the leader of the colony. This important discovery, that the queen proceeds from a worker-egg, was first announced by Schirarch, a Saxon clergyman, in 1771. (It is an interesting fact that nearly all of the great discoveries in bee-production have been made by clergymen.)

On this discovery depends the modern methods of commercial queen-rearing, by which queens are now produced, in every modernized apiary the world over, many bee-keepers making queen-rearing an exclusive business. Though the queen hatches in *sixteen days*, the drone requires *nineteen*, and the workers *twenty-one days*. The shorter period is probably due to the much more abundant and the richer food supplied to the queens; also because she has a more roomy cell in which to develop. This is an excellent illustration of how much environment will do for a developing animal. On these influences, the Rev. L. L. Langstroth has written in his classic work on the "Hive and Honey-Bee." He says:

"The peculiar mode in which the worm designed to be reared as a queen is treated, causes it (1) to arrive at maturity almost one-third earlier than if it had been bred a worker. And

yet, as it has to be much more fully developed, according to ordinary analogy, it should have had a slower growth. (2.) Its organs of reproduction are completely developed, so that it is capable of fulfilling the office of a mother. (3.) Its size, shape and color are all greatly changed. Its lower jaws are shorter, its head rounder, its abdomen without a receptacle for secreting wax, and its legs have neither brushes nor baskets, while its sting is more curved, and one-third longer than that of the worker. (4.) Its instincts are entirely changed. Reared as a worker, it would have been ready to thrust out its sting at the least provocation; whereas, now, it may be pulled limb from limb, without attempting to sting. As a worker, it would have treated a queen with the greatest consideration; whereas, now, if brought into contact with another queen, it rushes forthwith to mortal combat with its rival. As a worker, it would frequently have left the hive, either for labor or exercise; as a queen it never leaves the hive after impregnation, except to accompany a new swarm. (5.) The term of its life is remarkably lengthened; as a worker, it would not have lived more than six or seven months; as a queen, it may live seven or eight times as long. All these wonders rest on the impregnable basis of complete demonstration, and instead of being witnessed only by a select few, may now be familiar sights to any bee-keeper who prefers to acquaint himself with the facts, rather than to cavil and sneer at the labors of others."

Of the anxiety of bees over the loss of their queen, and joy on finding her, the same writer says:

"A large hive standing at a distance from any other, was removed in the morning of a pleasant day, to a new place, and another hive, containing only comb, was placed in its stead. Thousands of workers, which were out in the fields, or which left the old hive after its removal, returned to the familiar spot. It was affecting to witness their grief and despair; they flew in restless circles about the place where once stood their happy home, entered and left the new hive, continually expressing in various ways their lamentations over so cruel a bereavement. Towards evening, they ceased to take wing, and roamed in restless platoons in and out of the hive, and over its surface, acting all the time, as though in search of some lost treasure.

"I now gave them a small piece of brood-comb, containing worker-eggs and worms. What followed the introduction of this brood-comb took place much quicker than it can be described. The bees which first touched it raised a peculiar note, and in a moment the comb was covered with a dense mass; their restless motions and mournful noises ceased, and a cheerful buzz at once proclaimed their delight. Despair gave place to hope, as they recognized in this small piece of comb the means of their deliverance.

"Imagine a large building filled with thousands of persons, tearing their hair, beating their breasts, and by piteous cries, as well as by frantic gestures, giving vent to their despair; if some one should enter this house of mourning, and by a single word cause all these demonstrations of agony to give place to smiles and congratulations, the change would not be more instantaneous and wonderful than that produced when the bees received the brood-comb."

The Mating of Queens.

If the weather is favorable, on the third day from the cell, the young queen goes forth on her "bridal tour," and in a few hours, if she is successful, she returns, bearing with her the organs of the male, which has perished in the act of impregnation. If the third day is cloudy, or wet, she goes forth on the first favorable day, and she continues to go forth day after day until she is successful.

The queen is always (some object to this) fertilized in the open air, while on the wing, *and but once in her life.* This was first announced by the blind naturalist Huber, at the close of the last century. The fertilizing element received from the male is stored in a little receptacle, and a little of it ejected as the eggs pass down the oviduct, thus vitalizing them.

Average Age of Prolific Queens.

The queen in her prime may lay from 2,000 to 3,000 eggs in a single day. Her second year is generally thought to be the most prolific, and after that she gradually declines in value. The queen lays such large numbers of eggs, however, only during the busy season of the year, when honey is coming in rapidly. During the winter months, and during a sudden cessation of the honey-flow, she ceases to lay almost entirely, though I think a few eggs and worms will be found at most times in vigorous colonies. This is a wise provision to protect the colony from destruction through loss of the queen.

When a queen has grown old and is no longer very prolific, the workers see that a new one is reared, and the old one is then "superseded," though occasionally the old and the young queens have been seen living in harmony in the same hive, and actually at the same time, on the same comb.

Some bee-men think that the workers will, unaided, attend to the destruction of feeble queens, but at present a large number of the more progressive apiarists prefer to do this themselves, thus insuring at all times to all their colonies, young and vigorous queens. This is one important particular in which modern bee-keeping differs from the old.

How Bee-Eggs are Hatched.

The eggs of the bee are hatched by the united heat of the colony. The interior of a hive is always warm, even in the dead of winter, and hence, when the number of bees in a hive becomes small, the colony perishes, being unable to maintain the requisite degree of animal heat. Hence, also, the reason for increasing only by swarming.

The Progeny of Unfertilized Queens.

If the queen-bee fails to become fertilized before she is 21 days old, she remains through her life sterile. This was first observed by Huber. In 1845, Dzierzon, a Catholic clergyman of Germany, observed that young queens not fertilized, and old, nearly exhausted queens, alike laid eggs, all of which hatched only drone-bees. After repeated observations, Dzierzon announced the discoveries, and the theory of *parthenogenesis*, which, in short, is, that some animals have, under peculiar circumstances, the power of bringing forth young, without the intervention of the male. In the case of bees, these unfertilized eggs hatched only into drones.

Mr. Langstroth, about 1851, sent an old drone-laying queen to Dr. Joseph Leidy, the renowned scientist, who found that the receptacle in which the male element is stored, was entirely empty. The same observation has been made by competent persons on young drone-laying queens. It seems then, that a queen can lay eggs which will produce queens, workers or drones. That queens come from ordinary worker-eggs, laid in special cells, and attended with special care. The workers come from fertilized eggs, laid in ordinary cells, while the drones come from unfertilized eggs. It would seem that the queen can *will* whether she will have worker or drone progeny, she voluntarily discharging the male fluid upon the eggs as they pass down the oviduct, or withholding it. This point is, however, in dispute, some believing that the small worker-cell compresses the body of the queen, and that this pressure opens the mouth of the vessel containing the male fluid. Be that as it may, the queen can also lay drone-eggs in worker-cells, and worker-eggs in the cells which have only just been commenced, and where

this pressure cannot possibly be exerted.

The workers hatch in 21 days. A careful microscopic study of their sexual system (first made in the time of Huber, and for him), shows them to be partially developed females, the sexual organs being very rudimentary. Here rests the possibility of developing *any worker worm* into a queen, if it is only taken early enough, and subjected to lengthening to meet the needs of the larger occupants. All this shows the wonderful instincts of this wonderful insect.

Edenburg, Pa.

LARVAL FOOD.

The Quantity and Quality of the Food of Larval Bees.

Written for the Druggist Circular
FOR SEPTEMBER.

The bee has proven a sufficiently interesting study to engage the attention of many able observers, among the keenest of whom are Leuckart and Schonfeld, whose observations concerning the food of larval bees agree in the main, and are according to A. V. Planta (*Zeit. Physiol. Chem.*) substantially as follows:

1. The food of the queen-bee larvæ is the same during the whole of the larval period; it is free from pollen-grains, which have been reduced to a thickish but homogeneous juice by the digestive action of the stomach of bee.

2. The food of the larval drones is also, during the first four days of the larval period, free from pollen, and appears to have been completely digested previously. After four days their food is rich in pollen-grains, which have, however, undergone a certain amount of digestion. The food stuff of the larvæ is probably formed from bee-bread. The composition of the food of the queen-bee larvæ was water, 69.38; total solids, 30.62. In the solids the proportions were, nitrogenous material, 45.14; fat, 13.55; glucose, 20.39; ash, 4.06.

The composition of the food of the drone-larvæ and those of the working bees both differed from each other, and from that of the queen-bees. All kinds are rich in nitrogen; all were of a grayish white color; that of the queen-bee was the stickiest, that of the workers the most fluid. Peptone appeared to be absent; the greater part of the nitrogenous material present was proteid. The ethereal extract was in all cases acid, but formic acid was absent. The sugar present was, in all cases, invert sugar, whereas the sugar in pollen-grains is invariably cane-sugar.

There are certain differences in the composition of the different kinds of larval food, more especially in the composition of the solids present. Its composition is, moreover, quite different from that of the bee's saliva, which contains no sugar. The difference between the proportional amount of the different solids present in the different forms of larval food is a constant one, and no doubt this variation has in view the particular requirements of the larvæ in question. Certain small but constant differences were also observed in the chemical composition of the food of the larval drones during the first four days, and at subsequent periods. Not only is there a difference in the quality, but there is also one in the quantity of the food supplied.

The juice from 100 queen-bee cells yielded 3.6028 grams of dry substance; that from 100 drones' cells, 0.2612 gram; that from 100 workers' cells, 0.0474 gram. The substance investigated was the juice of pap, the whitish sticky substance which the working bees store in the cells of the larvæ of the queens, drones and workers.

Leuckart regarded it as the product of the true stomach of the working bees, which they vomit into the cells, in the same way that honey is vomited from the honey-stomach. Fischer and others regarded it as the product of the salivary glands of the bees. Schonfeld, in numerous papers, has recently shown that Leuckart's original view is the correct one. He showed that the saliva can be easily obtained from the salivary glands of the head and thorax, and that it is very different from the food juice deposited in the cells of the bees; and that, moreover, the juice is similar, both chemically and microscopically, to the contents of the bee's true stomach; he showed also from the consideration of certain anatomical and physiological peculiarities of the bee, such as the position of the mouth, the inability of the bee to spit, etc., that the view of this substance being saliva, is quite untenable.

Certain observers have replied that a bee cannot vomit the contents of its true stomach, because of a valve which intervenes between it and the honey stomach; but Schonfeld has shown that the structure, mistaken by these observers for a valve, does not act as one, but is in reality an internal mouth, over which the animal has voluntary control, and by means of which it is able to eat and drink the contents of the honey-stomach when necessity or inclination arises. By light pressure on the stomach, and stretching out the animal's neck, the contents of the stomach can be easily pressed out. Planta's investigations entirely confirm Schonfeld's view, that this substance comes from the bee's stomach.

REARING QUEENS

By the Swarming Impulse, Not in the Swarming Season.

Written for the American Bee Journal
BY A. N. CLARK.

Recently Mr. Alley stated that he had in August reared queen-cells in colonies having queens. I do not know his method, but a year ago last July I had cells built in a normal colony as follows:

I contracted the hive to 8 Langstroth frames, 2 of which were empty combs. There being but little nectar in the fields, I fed one pound of diluted honey each day; this stimulated breeding, and, being crowded for room in the course of a week, they commenced building cells preparatory to swarming. As soon as the cells were started, I removed the comb containing them, replacing it by a selected comb of hatching eggs in which the cell-walls were broken down in rows that were horizontal.

Upon examination a few days later, I found cells on the prepared comb. Just before the cells were ready to seal, the comb of cells was removed to a queenless colony. By thus removing cells, replacing with empty comb, and the discontinuance of feeding, swarming was prevented.

It is quite possible that one would not always be so successful. For instance, the bees might build cells of their own larvæ instead of from that given them; and frequently they might swarm before the cells were removed, or, even after their removal. In some cases the queenless colony might destroy the unsealed cells given them. Perhaps Mr. Alley's method overcomes these difficulties.

Although queens reared by the above method seem as good as any, I doubt their being *better* than those reared in queenless colonies, strong in young bees.

Why Bees Gather More Propolis in the State of Michigan.

Some apiarists have wondered why bees in Michigan use propolis more freely than they do in some other States. I think that it is due to the greater number of tamarack trees that grow here. The bees are now gathering large quantities of resin, which exudes from the cones on the tamarack and evergreen trees.

East LeRoy, Mich.

STRAIGHT COMBS.

Securing Straight Combs Without Comb Foundation.

Written for Farm, Field and Stockman

BY S. E. MILLER.

This is one of the first difficulties that the beginner in bee-culture will meet with, if he has not some good book to refer to, and even some of these only tell how to do it by using comb foundation. I believe I have never seen an article in any book or paper which told how straight combs could be secured without the use of foundation. Although it is the best and cheapest in the long run, it is not every beginner who has the money to invest, or wishes to purchase the article, therefore, the question arises how to get along without it.

The following plan was given to me by a brother bee-keeper, and I have since verified it to my satisfaction :

When hiving a swarm, if you have already a movable-frame hive containing straight combs, take out one, or better, two combs, replacing them with empty frames or division-boards. Insert these frames in the new hive which the swarm is to occupy, putting them near the centre, with an empty frame between them. The bees will cluster on these two frames of brood, and will be sure to commence work on the frame between them first, and having a straight wall an each side, will be almost certain to build it straight. If honey is plentiful, this frame will soon have a straight comb started all along its top-bar, but should they build any side-combs, remove them. Now part these frames and put two more empty frames between, leaving the frame with the newly-made comb in the centre, an empty one on each side of it, and the two finished frames containing full combs on the outside of these.

Continue in this way until all the frames have a small straight comb started along under their top-bars, after which very little attention will be necessary to insure straight combs. Until then, be ever attentive, not allowing them to work more than two or three days without examining them, and cutting off all combs that may be started where you do not want them. You can get along with one full frame of comb to start with, or even without any, but in that case you must be vigilant, and never allow the bees to start building the combs crosswise of the frames.

Some beginners seem to think that all they have to do is to put the bees into the hive, in the belief that the bees will know how to manage things. The result is, the bee-keeper has a movable-frame hive in which the frames are not "movable" after being filled with combs. I know of a case of this kind just across the river from here. Bees, if allowed to have their own way in frames not having foundation starters, are, I think, just as likely to build crosswise as lengthwise of the frames.

With a little experience in this way, the beginner will soon have no trouble in securing combs as straight as can be secured with comb foundation.

I might add that I have had the best results in frames with a triangular strip of wood fastened to the underside of the top-bar, instead of the comb-guide in common use at the present day.

OLD QUEENS.

The Value of Queens After 2 or 3 Seasons.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

Some prominent bee-culturists (among them Mr. Oatman, of Dundee, Ills., who counts his colonies by hundreds), do not keep a queen after she has laid for three seasons. They keep bees for the money there is in them, and claim they obtain the best returns by so doing, as an old queen, like an old hen, lays but few eggs, and that she is apt to fail when most needed. Nor if the colonies are not populous, at the right time, the more of them the owner has, the poorer he will be. Just before the honey seasons closes in the fall, is a good time for renewing queens, as then no time will be lost. If it is done in the spring, it may materially damage the honey crop for that season.

Those who desire to purchase queens can obtain them much cheaper in the fall, than at any other time of the year. It is better for all bee-keepers to introduce a little new blood among their bees now and then ; following the example of breeders of fine horses, cattle, sheep and fowls, they should aim at excellence, and not be satisfied with any but the best. Queen-bees are now sent in the mails to all parts of our country, for a two-cent stamp, and even from Europe, with entire safety.

It is not necessary to purchase queens, except to introduce new blood now and then to build up an apiary to a high state of excellence. Every close observer will soon notice which are his best colonies, those that are most populous, and consequently gather the most honey. The best colonies generally swarm earliest, and if all of the queen-cells are preserved, the bee-keeper will be master of the situation. These young queens can be kept during the busy season in a hive with two or three frames of comb, and are ready to be introduced to large colonies at the pleasure of their owner. Where after-swarms or "casts" have been hived in the hurry incident to swarming, and are being united in the fall, the good queens should be preserved ; her bees will proclaim her character.

In the general overhauling of the apiary in the fall, some colonies will be generally found not up to the standard ; bees very small, or else very dark, the queen having mated with a black drone. The queens removed while uniting could be introduced to such colonies. A general weeding-out should take place in the fall, of all undesirable stock.

Imported queens were for many years held at high figures, as so many died in transit. An Irishman once said to me : "Mr. Rogers once paid twenty dollars for a bay, a single bay, Madam." Since a better way of sending them has been discovered, few are lost, and they can be purchased at reasonable rates.

It is an easy matter to discern Italian queens. They stick to the comb, and their bright color attracts the eye : but with the dark or common bees, it is different. The bees run like a flock of sheep, and the queen hides among them, and cannot be discerned by her color. I have lifted the combs of a black colony two or three times, and failed to find her sable majesty. I now have a queen-excluder, which is a piece of zinc with holes in it, that admit workers, but not drones or queens, and put that against the entrance of a new hive. I remove the old one, putting this in its place. Then I remove the combs and brush off the bees, place them in the new hive, cover them up, and, if I am busy, retire to new duties and allow them to enter the hive at their own sweet will. The queen and drones will be found on the excluder. One time, in driving a colony in this way, I picked up the black queen, and immediately put an Italian in her place, and she was well received.

It should be borne in mind, that the old queen must first be removed before releasing a new one, or she will be destroyed. Then cage the queen, and release her in 48 hours, or. better still, let the bees do it. If a shipping-cage is fastened to the side of a comb with the tin points, the bees will eat away the comb and release her. I roll up wire-cloth over a little stick and wedge in the comb as stoppers, and let the bees release her from this.

Peoria, Ills.

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Oct. 16, 17.—Union, at Clayton, Ills.
S. N. Black, Pres., Clayton, Ills.

Oct. 20.—Wabash County, at Wabash, Ind.
Henry Cripe, Sec., North Manchester, Ind.

Nov. 21, 22.—Pan-Handle, at Wheeling, W. Va.
W. L. Kinsey, Sec., Blaine, O.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

A Power for Protection.—G. H. Ashby, Albion, N. Y., on Oct. 1, 1888, says:

I send my dues for the Bee Keepers' Union. The Union is doing wonders for the small amount expended. I do not believe that any bee-keeper, whether of few or many colonies, would miss one dollar per year—about 8 cents per month; and if only one-half would "chip in" that amount, what a power for protection the Union would be.

Over One-Half a Crop.—C. Thielmann, Thielmanton, Minn., on Sept. 27, 1888, says:

Bees in this vicinity have had a good time for honey gathering for the past 5 or 6 weeks; but for the past 2 weeks they have not done much in the sections on account of the cold nights, but they have filled the brood-chambers with honey. They have more than what they need for winter and spring. There are multitudes of flowers in bloom yet, but it has been too cold the past two days for the bees to work. The honey crop here is a little over one half, and about one-third of it is white, but not as white as usual. I got about 7,000 pounds, 6,000 pounds of which is comb honey.

Bee-Keeping in Dakota.—Andrew Craig, Empire, Dakota, on Sept. 22, 1888, writes:

I have 3 colonies of bees, one of which stored 18 pounds of surplus honey in sections; the other 2 did nothing. Settlers here are few and far between, and my bees have troubled nobody yet. My surplus was all gathered after Aug. 10, and is of light amber color. It was one half granulated within a week after being taken off. Alsike clover sowed last spring blossomed some, and bees worked immensely on bee-balm. Buckwheat yielded no nectar this season. Golden-rod and asters are abundant.

Best Season for 5 Years.—K. A. Dyke, Effingham, Ills., on Sept. 27, 1888, writes:

Having seen so many discouraging reports in the bee-papers lately, I feel like giving mine for this season. I commenced the season with 12 colonies, increased them by manipulation to 23, and secured 1,100 pounds of honey, three-fourths of it extracted, and all from heart's-ease and Spanish-needle. I had to feed my bees during August until about the 16th, to keep them from starving, and to keep up brood-rearing; they used up the feed clean each day, and when the honey-flow came on Aug. 26, it was a refreshing sight to see them lay it away. From Aug. 26 to Sept. 9 the weather was cloudy, some rainy, and quite warm, but very little sunshine; and with thousands of acres of bloom in sight and range, it is no wonder that the bees stored honey rapidly. Since that time it has not been so favorable, and only asters are yielding anything now. This has been the best season here for five years. Last year was considered a failure, yet I increased from 9 colonies to 12, and wintered all on the summer stands safely, and secured 350 pounds of surplus honey. I am disposing of my honey to the home markets, at 12½ to 18 cents per pound, wholesale; and 15 to 20 cents retail. I have lots of competition in the way of broken honey and "squeezed stuff."

Frozen Foundation.—C. G. Ridout, of Hutchinson, Minn., asks the following question:

Will it in any way injure comb foundation to freeze, or be kept in a room all winter that does freeze hard?

[No; if not handled while it is cold. Take it into a warm room and let it remain for a day or two before handling it in any way.—ED.]

The Illinois State Fair.—D. R. Rosebrough, Casey, Ills., on Sept. 27, 1888, writes:

I have just returned from the State Fair, and so far as bees and honey are concerned, it was a failure. There were only three or four exhibits of bees and honey, but it was in small amounts, and in bad condition. The best exhibit of honey and bees was from Piatt county. Dadant's comb foundation took the "blue ribbon." I could not take any honey this year, as I had none to take, and that was likely the reason why there was not more exhibited; but I am in hopes of having some honey next year. I think that the bee-keepers of Illinois should arise in their might, and not allow our sister States to excel us in this line; so next year I want to see a dozen or more bee-keepers with honey at our State Fair. All other exhibits of agricultural products, except honey, were grand.

Bee-Keeping in Ontario.—Mr. R. F. Holtermann, of Brantford, Ont., Vice-President of the Ontario Bee-Keepers' Association, sends the following report of bee-keeping in Ontario:

The past winter was passed fairly well by the bees. Spring dwindling was excessive, owing to severe weather. The clover yield was a total failure in most localities, linden the same, and at its close showers and warm weather gave us some thistle honey in buckwheat localities; the fall flow was fairly good. On an average not sufficient honey has been secured for winter, yet colonies are otherwise in good condition. Whilst the average is so low, we hear of isolated cases where a yield of 30 to 40 and even 60 pounds per colony has been obtained; and, on the other hand, colonies had to be fed in the height of the honey season. Increase has been but slight, and all colonies remaining should be carefully preserved and cared for. There has been practically no comb honey taken, and the extracted honey will be off the market before the end of the present month.

AN ENGLISH OPINION.

The Rev. L. L. Langstroth.—In an article noticing the receipt of a cabinet photograph of Father Langstroth, from Mr. T. B. Reynolds, of Dayton, O., the *British Bee Journal* for Sept. 20, remarks as follows:

The photograph is a full-length, cabinet size, and gives a good idea of the general appearance and intelligent countenance of one who still retains so many admirers and friends in both hemispheres. It gives us much pleasure to note that, though long past the allotted threescore years and ten, and though for many years he has passed through much physical suffering, he continues to look so hearty and well, and it would appear as if many years were still in prospect before the "the grand old man" is called away from our midst. The name of the Rev. L. L. Langstroth has for so many years been "a household word" with bee keepers, that we feel assured that many will feel inclined to indulge in the enjoyment of being able to look into that calm, intelligent, and benevolent face which is now presented to them.

We feel a spirit of gratitude pervading our hearts that we have been permitted to look, as it were, upon his living presence. Our memory passes back to that sentence which well-nigh thirty years ago he penned: "Debarred to a great extent by ill-health from the appropriate duties of my profession, and compelled to seek an employment calling me as much as possible into the open air, I cherish the hope that my labors in an important department of rural economy may prove serviceable to the community." Truly, whatever loss there may have been to his fellow men in his inability to follow his high and holy calling, there has been a clear, and a great, and an abiding gain to the bee-keeping world; and we are ready to subscribe to that which his friend, the Rev. Robert Baird, said of him: "He well deserves the name of Benefactor—infinitely more so than many who in all countries and in all ages have received that honorable title." And how feelingly Mr. Langstroth directs the attention of those of his own profession to the study of the economy of the honey-bee: "The attention of ministers of the gospel is particularly invited to this branch of natural history. An intimate acquaintance with the bee-hive, while beneficial to them in many ways, might lead them in their preaching to imitate more closely the example of Him who illustrated His teachings by "the birds of the air, and the lilies of the field," as well as the common walks of life, and the busy pursuits of men.

The "old man eloquent" is still with us, and his voice is ever and anon heard in the exercise of his sacred calling. It was but a very short time since—only a few months ago—that this good man visited Mr James Heddon, of Dowagiac, Mich. Mr. Heddon says: "Nearing eighty years of age, and not in the enjoyment of very robust, physical health, I was astonished to find his mental powers as young and vigorous as those of a man of middle age." On this occasion he preached in the Congregational Church, and Mr. Heddon proceeds to say: "I think I may safely say that many years have passed away since our city has been honored with such beneficent and well-delivered sermons. His voice is round, full, and melodius, fully equal to four times the capacity of any church in the city." We can only breathe a hope that one whom bee-keepers have learned to love and reference may long be spared to us.

[The last sentence calls forth our most hearty response.—ED.]

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

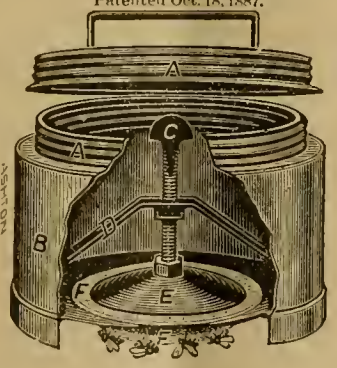
Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Hastings' Perfection Feeder.—This excellent Feeder will hold 2 quarts, and the letting down of the feed is regulated



by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2 25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1, postpaid.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Conventions.—The time for holding Bee-Keepers' Conventions has now arrived, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25. It also contains a lot of blank leaves on which you can note important matters as they come up. Do not fail to send for a copy of it.

Nature's Way.—This is the title of a 15-cent pamphlet entitled, "G. M. Doolittle's Method of Rearing Queens"—which is called "The nearest approach to Nature's way yet devised." It describes his method, and points out its advantages. For sale at this office.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club. Sample copies will be sent free upon application.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

We Have some copies of the old edition of Cook's Manual left, which we will sell at the old price, $1.25. The price of the new edition is $1.50 per copy; a notice of which may be found on page 579.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Queens.—We can mail a Tested Italian Queen (bred for the best results as well as for beauty) for $2.00; Untested Queens $1.00 each, or $9.00 per dozen. Orders solicited.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs, and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c. R. A. BURNETT,
Sep. 12. 161 South Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—We quote. Fancy white 1-lbs., 17@18c.; 2-lbs, 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs, 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8½c.; buckwheat, 5½@6½b.; California extracted, white sage, 7½@7¾c., amber, 7¼@7½. Demand good and prices firm. New comb honey is arriving quite freely.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Sep. 26. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 11@12½c.; 2-lbs., 12½@1 c.; amber, 8@10c. Extracted, white, 5¾@6c.; light amber, 5¼@5½c.; amber and candied, 4¾@5c. Receipts light and market firm for best qualities.
BEESWAX.—Dull at 19@22½c.
Sep. 22. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white comb, 17@18c.; dark, 16c.—Extracted, 8@10c. Market bare of all kinds.
BEESWAX.—21@22c.
Sep. 24. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 4½@8c. per lb. Comb honey, 12@16c. Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Sep. 18. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.
BEESWAX.—None in market.
Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c.; light amber, in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.
Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: New 1-lb. sections, 18@20c.; 2-lbs, 14@16c. New extracted, 8@10c.
BEESWAX.—25 cts. per lb.
Aug. 24. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—We quote: New white 1-lbs, 18c.; light 1-lbs., 16c. California white 1-lbs., 18c.; light 1-lbs., 16c.; white 2-lbs, 16c., light 2-lbs., 14c. Extracted, white, 8c.; amber, 7c
BEESWAX.—18@20c.
Sep. 5. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, 4½@5½c.; If in cans, 8@9c. White clover comb, 14@15c. Market is steady and receipts light.
BEESWAX.—21c. for prime.
Sep. 6. D. G. TUTT & CO., Commercial St.

MILWAUKEE.

HONEY.—New white 1-lb. sections 18c., and very fine, 20c.; 1-lbs, 15@18c.; old 2 and 3 lbs., not salable, 12½@14c.; dark 1 lbs., old or new, 12@13c. Extracted, new white in kegs and ½-barrels, 8@9c.; old, in same packages, 7@8c; in tin, 8@9c.; dark in barrels or ½-barrels, 6@6½c. Arrivals of new crop small; demand not urgent, and only very moderate trade.
BEESWAX.—22@24c.
Aug 31. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6 cents; light amber, 5¾c.; amber, 5¼@5½c. Comb, 1-lbs., 13@14c; 2-lbs., 10@13c.,
BEESWAX.—20@22c.
Sep. 24. SCHACHT & LEMCKE, 122-124 Davis St.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

The Presidential Candidates.—Among the many interesting publications brought out by the campaign, "The Presidential Candidates" is one of the best. It is of the size and style of *Harper's Weekly*. It contains portraits and sketches of all the twelve candidates, and the portraits of Mrs. Cleveland, Mrs. Harrison, Mrs. Morton and Mrs. Thurman. The large pictures of Mr. Cleveland and Mr. Harrison are very striking, and the best we have seen. The many sketches of the lives are exceedingly interesting. While all the portraits are of great interest, those of Belva Lockwood, the Suffragist Candidate, and that of Mrs. Thurman, will attract unusual attention. Altogether this is a very valuable publication at this time. It is sold by the newsdealers, or sent by J. A. & R. A. Reid, of Providence, R. I., for 10 cents.

☞ The Wabash County Bee-Keepers' Association will hold their fall meeting in the Court House at wabash, Ind., on Oct. 20, 1888, at 10 a.m. All bee-keepers are cordially invited to meet with us.
HENRY CRIPE, *Sec.*

Advertisements.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

Jones' Frame Pliers.

FOR taking frames out of hives, or moving them in any way desired. It is made of Japanned iron, and can be utilized in many ways. It has a long claw for loosening frames, and a hook which may be used for carrying other frames besides the one held by the Pliers. Price, 40 cents., by mail. By express, 30 cents.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.
Mention the American Bee Journal.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY THOS. G. NEWMAN & SON, CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Oct. 17, 1888. No. 42.

EDITORIAL BUZZINGS.

The Columbus Convention has monopolized a large space in this issue of the BEE JOURNAL. Next week we hope to give the remaining portion. In order to do this we omit the Queries and nearly all the correspondence. As that convention presents the *newest* matter for the craft in America, we must give it in time to be *fresh* as well as *seasonable*.

The Alabama State Fair occurs at Montgomery on Oct. 22, and in the Bee and Honey Department the premiums amount to $68, besides diplomas. Capt. W. H. Black makes an exhibit there. His 16 colonies last spring have increased to 38, besides giving over 1,000 pounds of surplus honey in one-pound sections. That is a little over 62 pounds per colony, spring count. That is a report not to be ashamed of in this exceedingly poor season!

On Mountain Sides.—A California paper thus moralizes over the fruit-bees controversy and its results:

The irrepressible conflict between fruit-grower and apiarist has ended in the latter fleeing to the mountains, taking the little busy bees to gather the nectar from the delicious mountain flowers. The orchardist charged that the bees punctured the ripening fruit with their lancet tongues, and while the bee-master knew this to be an error, he had no choice but to go among the hills where fruit-growing is not yet a leading industry.

Nay! Rather say that the rich mountain flowers have enticed the bee-keepers to the delicious bee-pasturage provided by Nature away up the mountain sides, leaving the valleys to the raisin-growers—thus solving the problem to the advantage of both the fruit-growers and bee-men. How much better to have it so, than to quarrel over it.

Bulletin No. 39, issued by the Agricultural College of Michigan, on Sept. 1, 1888, contains "experiments with insecticides," by Prof. A. J. Cook (who is well-known to our readers), having charge of the Department of Zoology and Entomology at the College. The experiments were made for the purpose of destroying the Codling Moths, Curculio, Ants, and other insects. The Bulletin also gives valuable information concerning the planting of trees, etc., and advises the planting of Linden trees instead of Maples and Locusts, which are so susceptible to injury. He says:

Our American linden or basswood is a tree of rare beauty, and a more vigorous and rapid grower than either maple or elm. It is attacked very rarely by insects, and so far as I have observed I should say that ten transplanted basswoods live and thrive to one of maple. Last but not least, the linden is a very valuable honey-tree, as the honey from basswood is usually very plenteous and of most excellent quality, as we should expect from the delicious fragrance of the beautiful flowers. When we plant a linden, then, we are adorning our street, or grounds, with a tree that will very likely live and thrive, a tree that will surprise us with its rapid growth and development, and a tree that will bless the coming generation with the valuable product which it so bountifully yields. I believe there is no native deciduous tree that offers such inducements for transplanting as does the American linden.

Unless we conclude then to plant lindens exclusively, and such a course has much to recommend it, I should say plant all our beautiful trees: linden, maple, elm, oak, tulip, chestnut, ash, willow and even poplar, then, as with the man who practices mixed husbandry, and like the maid who divides her eggs among several baskets, we shall be almost sure to win at some point, and not to lose in all.

If it is thought that trees of one kind when planted in a single or double straight row look the best, then I say plant linden. If we plant irregularly, and pay some heed to grouping, which I have done, we can then plant all kinds of trees with excellent effect. Were it not for the inconvenience of this style of planting, when we come to use our mowers to cut the grass along the way side, I should certainly advise this irregular planting and grouping. Owing to the enhanced beauty, I prefer it even with the inconvenience thrown in.

To conclude, I say then, either plant lindens or else all our desirable native species. If we must set maples, then practice great care that we may resist the borers and save our trees.

Some Texas Honey-Plants.—J. C. Bell, Belton, Tex., on Sept. 29, 1888, writes:

As requested on page 620, I have sent Prof. Burrill three stalks or stems with flowers for name. The old stalk came up from an old root that lives through the winter. The two tender stalks came from the same root after the August rains. The second crop does not secrete honey as well as the first. I also sent one white bloom for name that is very fine for bees; it grows wild here, and blooms the second time when it rains in the summer.

[The plant sent by Mr. Bell sometime ago proves to be *Salvia azurea*, variety *grandiflora*, occurring from Kansas well southward in Texas. The determination has been made from some specimens recently received direct from Mr. Bell. Like all the sages, this plant is a good honey-producer. Another plant sent by the same person is the prickly poppy—*Argemone platyceras*—not known to be specially useful for honey.—T. J. BURRILL.]

What a Commission Merchant Has to Say About Honey.—In conversation with J. T. Carson, a commission merchant of Louisville, Ky., last week, some points of special value to bee-keepers were brought out. He reports the honey crop unusually short so far as his information goes, and he usually handles quite large quantities. Comb honey sells in Louisville much more rapidly than extracted, and that in one-pound sections much better than that put up in larger packages.

Bee-keepers should be careful to not leave honey on the hives until it gets a yellowish cast, as that which is the whitest and cleanest sells first.

Shipping crates for comb honey should have glass at one end, but do not need it on two ends or two sides, as one side is just as good, and there is less liability of breakage.

Mr. Carson has all his honey shipped by freight, as express companies not only charge more, but their agents are so often hurried that it is not handled as safely as by the freight hands. A large shipment of comb honey put up in an unsalable shape hung on the Louisville market for over a year, while that put up neatly in one-pound sections found ready sale.

Good comb honey could be sold in Louisville at 20 cents less 5 per cent. commission and freight. As the honey crop has been very light, those who have any may expect good prices and prompt returns.—*Indiana Farmer.*

A Trusty Guide.—Under this heading the *Prairie Farmer* gives Prof. Cook's new "Manual" the following superb notice, which we most fully endorse:

A new edition of the "Bee-Keepers' Guide, or Manual of the Apiary," is on our desk. This is the fifteenth thousand of the deservedly popular Guide of the Professor. Let none fear to trust this guide up the steep and rugged paths of bee-keeping, for it will ultimately land them on the summit of success. His feet are freshly shod, his Alpine-stock newly pointed, and you can lean on his arm with safety. On the way, with magnifying glass in hand, he will show you the wonderful mechanism of this useful insect; its tongue, which does not talk, but laps and sucks up the nectar into its haversack, and its many-jointed legs, which gather and carry the pollen. This Apian way is bordered with many beautiful flowers, for which the bee acts as marriage-priest, and they are fully described and illustrated. Let all who can, take a trip with this Guide, for they will remember the pleasant "outing" many years to come.

Mr. T. B. Blow will only visit bee-keepers who may invite him to do so—he will not thrust himself upon them. If any wish to have such a visitor, they may send the invitation to this office. We expect him to call here within a few days.

GLEANS OF NEWS.

Rhode Island State Fair.—In the Providence Evening *Telegram* we notice the following as the awards in the department of "bees, honey and wax :"

The judge of this department was L. C. Root.

Awards—S. A. Dexter, Providence, comb honey, third ; Samuel W. Lewis, Olneyville, package of comb honey, first; liquid extracted honey, second ; extracted honey, third ; granulated extracted honey in glass, first ; 10 pounds of wax, second.

A. C. Miller, Drownville, 10 pounds of comb honey, second ; 10 pounds of liquid extracted honey, second ; display of drones, third ; hatching queen-cells with bees, second ; complete hive for comb honey, second; complete hive for extracted honey, second ; thin foundation for honey boxes, first.

Samuel Cushman, Pawtucket, comb honey, first ; assortment of comb honey, first ; one pound of comb honey, second ; display of comb honey, first ; 200 pounds of extracted honey, first: 10 pounds of the same, first ; variety of extracted honey, first ; package of the same, first ; drones, workers, etc., first ; hatching queens in cells, third ; display of queens, first ; hatching colony, first; hive for comb honey, first ; hive for extracted honey, first ; extracted honey, first ; display of apiary improvements, second ; largest exhibit, first.

Mrs. S. M. Lackey, Providence, 200 pounds of extracted honey, third ; variety of extracted honey, second ; beeswax, first ; drones, queens, etc., second ; hatching cells, second ; display of queens, etc., second ; hive of comb honey, third ; hive of extracted honey, third ; honey extractor, second ; 10 pounds of comb for brood, first.

Judge L. C. Root makes the following report on this department :

The bee-keepers of Rhode Island have reason to be proud of their exhibition in this department. While they all rank well, I should be unjust to myself, to the society and to the bee-keepers of Rhode Island if I did not express my personal gratification at the marked standard of excellence to which Mr. Samuel Cushman, of Pawtucket, has attained as manifested in his exhibit. In the average of his exhibits I observed a most marked degree of neatness, attractiveness and mechanical skill which is the very foundation of success in our business.

A New Enemy.—In the new entomologicat periodical published by the Government at Washington, D. C., entitled *Insect Life*, No. 3 for September, 1888, we notice the following under the caption of "A New Enemy to Honey-Bees," which is worth making a note of. It reads as follows :

Several predaceous bugs have been recorded from time to time as feeding upon honey-bees, and in Bulletin 12 of this division (page 44) we mention the fact that the common wheel bug (*Prionidus cristatus*) was in the habit of lurking about the hives and preying upon the bees at Winchester, Va. Last summer we received information from Mr. J. W. Lanford, of Lawrence County, S. C., that another bug had been captured by him in the act of piercing the honey-bee, and that his neighbors had noticed the same insect lurking about their hives. The specimen captured in the act was forwarded to us, and proved to be *Euthyrhynchus floridanus*, a species which is rather common throughout the South.

Postal Reform.—*Farm Life* comments thus on this matter : "The Senate Committee to whom was referred the bill reducing the postage on fourth-class matter from 16 to 8 cents per pound, have reported favorably, giving the reasons why the change is advisable. The objection that the lower rate would lessen the revenue is clearly shown to have no foundation. While *Farm Life* is in favor of the 4 cent rate, it may be that a trial of the 8 cent rate will the better prepare the way for the adoption of the desired reform. The arguments now used by the Senate Committee will be found equally effective in a year or two for the lower rate. Four cents a pound for merchandise, and one cent an ounce for letters are the rates demanded by the people, and these they are certain to have before the agitation ends. We append a small part of the Senate report :

On the present estimated volume of fourth class matter (excluding seeds, etc.), the immediate loss by the proposed reduction of the rate would fall considerably short of $1,000,000 annually, a sum that seems insignificant in the present magnitude of the postal revenue. The stimulus of a lower rate would, however, greatly augment the number of parcels mailed, bringing a corresponding increase of revenue. Moreover, the carriage of fourth-class matter incidentally involves much extra revenue, through circulars, money-orders, postal notes, registered letters, and ordinary written correspondence connected with the transactions; and this extra revenue, arising almost wholly from exceedingly profitable sources, would increase just in proportion to the increase of fourth-class matter. It may well be doubted, therefore, whether there would be any decrease of revenue from this source at the very outset, and in the end there would surely be a very large increase.

The measure would not involve a proportionate outlay, since usually merchandise is carried within restricted areas, and to a large degree over "star routes," the cost of which is not sensibly affected by the weight of the mails.

"The United States, while having the cheapest letter and newspaper postage, and in many respects the best postal service of any country in the world, is far behind nearly every other leading government in providing facilities for the carriage of merchandise and miscellaneous articles in the mails.

"We are almost alone in being without the parcels post system, which has become a marked feature in the postal establishments of other countries. Under this system, merchandise and other matter of almost every description are carried in the mails at a small fraction of the charge, and in quantities greatly in excess of that allowed on fourth-class matter in this country. The present charge of 16 cents a pound is prohibitory in its effects, often compelling people to deny themselves of small articles, whether of necessity or comfort, which they cannot procure otherwise than through the mails. The hardship falls most heavily upon those living in the rural districts, where the home markets are scantily supplied, and where the usual means of private transportation do not exist."

Fall Flowers and Honey.—Mrs. L. Harrison, in the *Prairie Farmer* for last week, thus speaks of the fall flowers, prairies and fall honey of Illinois :

The hope so fondly cherished, that fall flowers would yield sufficient honey for winter stores, has been realized. In a letter before me from a lady bee-keeper of South Evanston, Ills., is the following : "I shall not have to do any feeding ; the hives are loaded in the brood-chamber, yes, crowded with honey ; and the queens have been making up the time they lost in the spring. If honey and young bees will insure good wintering, I ought not to lose any."

On the prairies, where corn and sky meet, and wet places are tile drained, there may not be a sufficiency of fall bloom to yield honey for the support of the bees during the coming winter. Timber-lands, and those along water-courses, subject to overflow, where Spanish-needles and motherwort flourish, are the best bee-pastures in the fall.

I am an old settler of the State of Illinois; came here in 1836, and have lived here and in the vicinity ever since. I was born in Ohio, and it is a good State to be born in, if one only emigrates soon enough, as I did, in time to enjoy the beautiful prairies in their pristine loveliness. On these meadows roses, lilies, Indian pinks and lady-slippers, with many more, budded and blossomed and nodded in the breeze, with no fear that the cruel reaper would cut them down. There were two kinds of lady-slippers, yellow and delicate pink-and-white ones. I have not seen one for years, but it would give me more pleasure to see one than the rarest exotic.

An old settler of this county said that he was like the mountain that said to Mahomet, "I cannot come to you, so you must come to me," and invited the old settlers to picnic on his grounds. More than one hundred responded to the call, and on the way thither on the cars, some remarked: "I rode over this ground when there was not a single house." And now, what a change! Farm houses and towns. My old friends, the prairie flowers, had given place to corn and stubble-fields ; the plow, reaper and mower had ruthlessly cut them down, and they waved there no more. The cabin, lye-hopper and old bee-gum have disappeared, and large, commodious farm-houses occupy their sites. In lieu of the buzzing of the wheel, the note of the organ and the whirr of the sewing-machine are heard. The sound of the flail is heard no more in the land, nor the tread of horses on the ground threshing-floor, but instead there falls on the ear the whirr of the steam-thresher, as the stream of clean grain runs into a sack, while the clean, bright straw is deposited on the stack.

There are some "old settlers" among the flowers yet remaining, that the reaper and plow have not destroyed. Golden-rods and asters have taken up their abode under the protection of hedges, fences, and rough, untillable land. Tile drove them from wet places, and now they are on the ragged-edge. May the day be far distant when they are driven from the highways and fences!

The Credit Belongs to the Bees.—Farmers say that honey is their only product that is free from vermin. Let due credit be given the bees for this. They certainly take great pains to "comb" it.—*Binghamton Republican.*

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

INTERNATIONAL.

Report of the North American Bee-Keepers' Convention.

Written for the American Bee Journal

BY W. Z. HUTCHINSON.

The North American Bee-Keepers' Society convened its Nineteenth Annual Convention on Oct. 3, 1888, in the Representative Hall, at the State House in Columbus, Ohio.

The meeting was called to order at 11 a.m., with President A. B. Mason in the chair. As no programme had been prepared, a committee was appointed to prepare one. The following members then paid their dues :

J. S. Barb, Bristolville, O.
J. A. Bayard, Athens, O.
E. M. Bennett, South Charlestown, O.
Dr. H. Besse, Delaware, O.
J. H. Boyden, Saline, Mich.
Jno. Calvert, Medina, O.
Asher M. Coe, Coe Ridge, O.
E. H. Collins, Mattsville, Ind.
Prof. A. J. Cook, Agricultural Coll., Mich.
J. Y. Detwiler, New Smyrna, Fla.
W. J. Dixon, Monday, O.
G. M. Doolittle, Borodino, N. Y.
Frank A. Eaton, Bluffton, O.
Henry Hastings, Kenton, O.
B. Helphry, Utica, O.
R. F. Holtermann, Brantford, Ont.
Marcus Holtz, Tiffin, O.
W. Z. Hutchinson, Flint, Mich.
C. E. Jones, Delaware, O.
D. B. Lovett, Crestline, O.
David Lucas, Jewett, O.
Dr. A. B. Mason, Auburndale, O.
N. W. McLain, Hinsdale, Ills.
J. J. McWhorter, South Lyons, Mich.
Dr. C. C. Miller, Marengo, Ills.
F. Minnick, Bessemer, Wis.
J. F. Moore, Rockaway, O.
S. R. Morris, Bloomingsburg, O.
Adam Rickenbacher, Gahanna, O.
A. I. Root, Medina, O.
E. R. Root, Medina, O.
R. R. Ryan, Bradshaw, Nebr.
Jno. Short, Moline, Mich.
J. H. Smith, Kenton, O.
R. L. Taylor, Lapeer, Mich.
Dr. G. L. Tinker, New Philadelphia, O.
Samuel Utz, Kenton, O.
P. S. Van Rensseler, La Cairne, O.
G. W. Webster, Lake Helen, Fla.
B. Wells, Fostoria, O.
Robt. B. Woodward, Somerset, O.
S. P. Yoder, East Lewistown, O.

LIFE MEMBER.

Thomas G. Newman, Chicago, Ills.

LADY MEMBERS.

Miss Dema Bennett, Bedford, O.
Mrs. Prof. Cook, Agricultural Coll., Mich.
Mrs. M. George, Bowling Green, O.
Mrs. D. B. Lovett, Crestline, O.
Mrs. A. B. Mason, Auburndale, O.
Mrs. Mary McPherson, Ohio.
Mrs. E. R. Palmer, Exeter, Mich.
Miss Kate Perkins, Flushing, O.
Mrs. E. R. Root, Medina, O.
Mrs. M. Stover, Roscoe, O.
Mrs. Catherine Springer, Fostoria, O.
Miss Mary Statelar, Somerford, O.
Miss Sarah Statelar, Somerford, O.

After the members had paid their dues, the remainder of the forenoon was employed in what might be called

An Experience Meeting.

Miss Dema Bennett had received many reports, and nearly all reported failure. A few had reported getting 100 pounds per colony from pepperage.

Dr. Tinker reported almost no honey from white clover. The greatest yield had been from yellow poplar. The honey from this source is dark, and many mistake it for honey-dew.

Prof. Cook stated that he had received some heart's-ease honey from Iowa. When first received it was very strong in flavor. No one would want it upon the table. In three or four weeks the strong flavor had passed away.

R. L. Taylor said—My story is like that of the other members. My crop is about 5 pounds of surplus per colony. My bees are in two apiaries nine miles apart. All the white honey was secured in one locality, and all the fall honey in the other. In the northern part of the county the fall flow was bountiful. If I had moved my bees 20 miles I might have secured from 25,000 to 40,000 pounds of surplus. This honey that was secured in the northern part of the county was almost as white as my clover honey. I think it came from asters and button-ball. The flavor is good ; it reminds me of fine maple syrup.

R. F. Holtermann reported that bees wintered poorly in Canada. Clover and linden yielded but lightly. But very little comb honey had been taken, and the extracted would all be off the markets in October. The fall flow had been fair. In localities the flow from thistle had been good.

Mrs. Mary McPherson made her living by keeping bees, poultry, etc. She had learned the business under protest. Her husband had told her that she might sometime be left to support herself and children. His words had proved true. Last season she was left a widow. From 32 colonies she had secured 800 pounds of comb honey. She did all the work, besides caring for her poultry and doing her house-work. She was up in the morning as soon as it was light enough to see, and she said she would like to have a private settlement with the man who said bee-keeping was nice and easy work—just suited to ladies.

J. Y. Detwiler rehearsed the troubles that had befallen the bee-keepers of Florida. The frost of 1886 had injured the mangrove. It had recovered in a measure, and was beginning to yield. This year he had 1,200 pounds from 40 colonies. Large black ants give much trouble. They work at night, and sometimes destroy full colonies. Mr. Detwiler preferred to keep bees in the North, even with the risks of wintering, to keeping them in Florida ; but he liked the climate of Florida, his home is there, and he should stay.

The convention then adjourned until 2 p.m.

AFTERNOON SESSION.

The afternoon session was called to order at 2 p.m. by President Mason.

Reunion Song.

We naturally feel a little pride in the fact that when we need poetry, songs or music it is not necessary to leave our ranks in search of the talent necessary for their manufacture. The afternoon session was opened by singing "The Bee-Keepers' Reunion Song" —the words by Eugene Secor, and the music by Dr. C. C. Miller. Many of the members joined in the singing, and all were pleased with the sentiments expressed, as well as with the music.

After the singing the convention took up for discussion this subject :

The Best Age of Bees to Go into Winter Quarters.

Dr. G. L. Tinker preferred young bees ; those that had had one flight. He would put the bees in as early as Nov. 10, as they are then likely to become quiet and remain so. As an experiment he had taken some of the bees out of the cellar, and allowed them to fly, then returned them to the cellar, and as a result they became restless and wintered very poorly.

Dr. C. C. Miller—I suppose that if we should try to find out what class of the human family suffered most in a severe winter, we would learn that it was the old folks and the children. I do not know as I disagree with Dr. Tinker. I am not sure, however, that I want very young bees. In the fall we have all ages of bees in the hives. Some of them will die within a week, others in two weeks, others in a month, and so on. If it were possible, I believe it would be an advantage to have sifted out all the bees that would die before spring.

R. L. Taylor—I would like to ask at what time the Doctor would have the queen stop laying ?

Dr. C. C. Miller—We have but little control over this. We might prolong breeding by feeding.

R. L. Taylor—One year I fed the bees in the fall. October was warm, there was brood in the hives early in November, and the young bees certainly did no harm, as the bees wintered unusually well.

A. I. Root—We were once told that we must have young bees for winter—must feed if necessary. We tried taking away the queen in the fall, but the bees wintered well.

Prof. Cook would not care to have the queen lay after Sept. I.

E. R. Root—In 1886–87 we wintered 200 colonies without loss, and they were almost all old bees; we had foul brood in the apiary, and but little brood was reared.

Dr. A. B. Mason preferred bees that had done a little work before winter had begun.

Prof. A. J. Cook—I think that we ought to have brood up to September. In 1871 we had no brood in July and August, and the bees wintered poorly. I do not care to have the bees begin to breed before the first of April.

R. L. Taylor—I do not want my bees to breed in the cellar. One year, towards spring, I found a colony in the cellar that had one comb full of brood. I was pleased with it. I kept watch of it. When put out, the bees seemed to lose heart. They did not go ahead and prosper. Other colonies that did not breed until taken from the cellar outstripped this one.

There was quite a long discussion as to how early in the spring it was best for bees to begin breeding. Some said two months before the white clover harvest was soon enough, and others would have them begin sooner.

Upon a vote being taken, it was found that the convention was about equally divided. One-half thought that two months before white clover was soon enough, and the other half preferred to have them commence sooner.

The convention next listened to the reading of an essay by Prof. G. W. Webster, of Lake Helen, Fla., upon

The Honey-Plants of Florida.

Probably no State in the Union presents such a variety of soil and vegetable production, and consequently of bee-forage as Florida. Here in Volusia county, in what is generally called *South* Florida, there are at least seven distinct classes of land, each class having its own peculiar flora. These classes are commonly distinguished as High Hammock, Low Hammock, High Pine, Low Pine (or Flatwoods), Scrub, Cypress Swamps, and the Mangrove Islands.

A narrow strip of hammock along the St. John's river, a wider one running north and south along the coast, and a few small bodies scattered through the county, comprise the hammock land. The largest portion of high pine land is a strip 5 to 10 miles wide running north and south through the county, and near the St. John's river. Between the high pine land and the hammock along the coast, there is a strip of low pine land 10 to 15 miles wide.

Scrub lands are scattered about in various parts of the county, sometimes several thousand acres in a body. Small bodies of cypress swamp are to be found in nearly all parts of the county. The Mangrove islands are found in the salt water of the Indian and Hillsborough rivers, along the coast. Hammock lands furnish bee-forage from cabbage and saw-palmetto, yellow jasmine, grapevines, and many other vines and shrubs. High pine furnishes almost nothing except where it is cultivated in orange groves, or other crops. Cow-peas keep bees busy during a part of the season, and the wild partridge-pea (*Cassia chamæcrista*) is said to be a good honey-plant; and sometimes Pelastemon Feazi is said to yield honey.

Cypress swamps are mostly located in the "low pine" lands, and furnish nothing that I know of except where there are whortleberries or ilex growing around their borders. Flatwoods are covered with large quantities of saw-palmetto, which is the best honey-plant in Florida, aside from the mangrove. Ilex glaber, a species of holly, with black berries, commonly called gallberry, is found along the borders of streams, lakes and swamps. It does not grow in sufficient quantities to yield a large amount of honey, but we sometimes get a flow of it just before the palmetto, and it produces a little better quality of honey.

Scrub yields a good quality of honey from the scrub or spruce pine, and a poor quality from a shrub called, sometimes, crooked-wood (*Andromeda ferruginea*). Palmetto is also found in the scrub, as well as whortleberries, red-bay, and some other shrubs that help a little. The orange yields abundantly, and the honey is of fair flavor. Settlements are mostly on high pine and hammock land, which would consequently locate the orange groves there also.

Our own apiary of about 40 colonies is located on high pine land. Our first surplus honey is from the spruce pine in January or February. In February or March comes the orange, and in April the andromeda. Two or three weeks later, in May, comes our best yield from gallberry and palmetto, which closes the season so far as surplus is concerned. In fact it is necessary to leave 25 or 30 pounds of honey in each hive when taking the last honey in June. Otherwise the bees are liable to need feeding during the fall or early winter, and in my opinion feeding does not pay in the pine woods of Florida.

During the summer and early autumn sufficient honey is gathered to keep up breeding, but by November surplus honey is generally considerably diminished. One common cause of loss of colonies here is undoubtedly lack of stores; another cause is the loss of queens in swarming time, many young queens being lost before they get to laying. During April and May the green dragon-fly is very destructive to bees; sometimes hundreds of them may be seen around the apiary, darting in every direction, seizing the bees as they return heavily laden, and devouring them at their leisure, as they fly about: and no doubt they get many young queens during their mating flight.

There is about as much trouble in wintering bees here as there is in the Northern States, owing, I think, to the many mild days during the winter, which tempt bees abroad when there is nothing for them to get. The bees become chilled or worn out, and fail to return. Our experience here has been a yield from 40 to 50 pounds of extracted honey per colony, the seasons varying as they are cold or warm, wet or dry.

Mangrove Region of Florida.

Bee-keeping near the coast, in the mangrove region, is entirely a different affair, and requires different methods. Before the great freeze of three years ago, very large yields were sometimes obtained. Several bee-keepers reported a yield of over 300 pounds each from their best colonies; and sometimes whole apiaries yielded an average of over 200 pounds per colony. The freeze killed much of the mangrove, and there are probably not over one-fourth of the bees there now that were there then.

The mangrove is slowly recovering from the effects of the freeze, and during the past season some apiaries have done fairly well. The great trouble seems to be in wintering the bees so as to have plenty of workers when the mangrove is in blossom, which is not generally before the middle of June, and lasts until sometime in August. Where there are many large apiaries the yield of honey from palmetto, orange groves and the hammock lands is not sufficient to keep the bees breeding during the late winter and spring.

One man, who was taking care of about 100 colonies, told me that he thought 60 pounds of honey should be left in the hive to winter on. It was then the last week in April, and he said that he had already fed five barrels of sugar. In March his bees had got well advanced in brood-rearing, on orange blossoms and yaupon (*Ilex cassine*), but in April the honey failed,

and the bees carried out large quantities of young brood. While we were talking we could hear the bees working on the two or three species of wild grape that were just coming into blossom in the hammock. I also noticed bees very busy on *Ilex deciduna* and *Eugenia dichotoma*, two shrubs or small trees that are plentiful in places near the coast.

About the same time I visited two apiaries belonging to J. Y. Detwiler—one at his home on the east side of the Hillsborough river, opposite New Smyrna, and the other on Orange Island, 12 or 14 miles further south. His home apiary did not seem to be doing much, there being but little hammock within reach of it, but the one on Orange Island, having access to plenty of hammock, were rearing brood and storing honey. He had not fed either apiary except perhaps to give weak colonies frames of honey from the strong ones.

I spent several weeks on the Hillsborough river in June and July, and visited the apiaries of Mr. Detwiler, the Messrs. Brown on the east side of the river, W. S. Hart (in charge of E. S. Contant) at Hawk's Park, A. E. Marsh, near Oak Hill, and others. Two story hives were generally used, and so far as I learned, no honey was extracted from the lower story, and it seemed to be the general opinion that both stories should be left full of sealed honey for winter use.

I think that the palmetto yield must have been much shortened the past season by dry weather, and the mangrove itself, although its roots stand in water, and are washed by the tide every day, seems to need rain in order to produce a good yield. I heard beekeepers complaining that they were getting little honey on account of the dry weather, while only a few miles distant, others who had been in the track of storms, were getting a good flow. The best yield heard of was 150 or 160 pounds per colony. Some got but very little. One man said that he fed two barrels of sugar and one-half a barrel of honey, and extracted two and one-half barrels of honey. Difference in location, rainfall, condition of bees, and I have no doubt in management, all conspire to make a difference in results.

I have no doubt that large quantities of honey will be produced from the mangrove, but it will be done by acquired skill and untiring perseverance.

Further south *Saturcia rigida*, commonly called wild penny-royal, is said to be a very superior honey-plant, blossoming during the winter. I have collected specimens of it within less than two miles of our own apiary, where it blossoms in April, but not in sufficient quantities to yield much honey.

The Grading of Florida Honey.

I wish to speak in regard to the grading of Florida honey. Some dealers still unjustly class it as "Southern honey," a name that has been applied to a very inferior article produced in some parts of the South, by the old-fashioned method of melting and mashing comb, bee-bread, brood and dead bees, and running the filthy mass through a cloth strainer. Mangrove honey is nearly as clear and white as the best white clover honey, and has a mild and pleasant flavor. Orange, palmetto, and gallberry honey—our principal honey-plants in the interior—are, in my opinion, much superior to buckwheat honey, and they are certainly much lighter in color than buckwheat, or even golden-rod, and should be graded and sold on their merits as mangrove, orange or palmetto, as the case may be.

GEO. W. WEBSTER.

Mangrove and Palmetto Honey.

After the reading of Prof. Webster's essay, the following discussion ensued:

Prof. Cook—I think that something ought to be done in the way of recognizing the difference between mangrove honey and the ordinary Southern honey. The mangrove boney is certainly fine honey, and ought not to suffer from having the name "Southern" honey given to it.

J. Y. Detwiler—If this convention would recognize the superior quality of palmetto and mangrove honey, and urge the editors to make a distinction between this and other Southern honey, in their market quotations, it would be a great help to the bee-keepers of Florida.

Upon motion of Dr. Miller, it was voted that the editors of the bee-papers be requested to quote mangrove and palmetto honey under their proper names, and to continue to keep these names in their quotations. If there is no honey of these kinds in the market, simply say, "None in the market."

The attention of the meeting was next turned to a discussion of the

Lessons of the Season.

Dr. C. C. Miller recounted the failures of the past seeson. Not only had the honey crop been a light one, but he had been called upon to bear troubles and afflictions, still, he had been happy; he thought that the greatest lesson he had learned was that of being contented under adverse circumstances.

R. F. Holtermann became disgusted with bees the first year he kept them, sold out, and the next year the average honey crop was 200 pounds per colony He had learned that it was best to "stick to it."

Prof. Cook thought that one lesson of the season was in that it showed the desirability of combining bee-keeping with some other business. He called attention to the amount of honey that Mr. Taylor could have secured by moving his bees. This should teach us what might be done by moving bees to better pastures.

The convention now took a recess of ten minutes.

When called to order, the members were once more pleased, set to laughing this time by Dr. Miller's singing a song entitled, "Dot Happy Bee-Man;" the words being written by Eugene Secor, and music by Dr. Miller.

The next topic taken up for discussion was,

The Time for Putting Bees into Winter Quarters.

Dr. Mason had put bees into the cellar on Oct. 19, and others later; and there was no particular difference in regard to the amount of stores consumed, or in the wintering of the bees. The average consumption of stores was six or seven pounds per colony.

E. R. Root said that their colonies consumed, on an average, about 12 pounds per colony.

Prof. Cook had done considerable weighing of bees. Out-of-doors the consumption of stores per colony averaged about 15 pounds; in the cellar, 8 pounds. He knew that bees *could* winter well in a light cellar, but as a general thing he did not think they would.

Dr. Mason knew that light was injurious. He had had bees continue to leave their hives on account of the light, until the hives were depopulated.

Dr. Miller had had bees remain quiet in the cellar with the sun shining upon the hives. If the bees are uneasy, the light will disturb them; otherwise it probably will not. He did not advise light in a cellar.

Prof. Cook—This may not be exactly the place to talk of hives, but I have noticed that bees have wintered the best in the "New Heddon Hives," and I have wondered if others have noticed it. I have been at a loss to account for this, as it has been without exception. Sometimes I have thought that it might be because the combs were ½ an inch above the bottom-board; and again, I have been inclined to attribute it to the fact that the upper story was filled with honey, while the lower one was empty.

Frank A. Eaton had never succeeded in wintering bees in the cellar until he began raising the hives from the bottom-boards.

R. L. Taylor—My experience with the Heddon hive has been similar to that of Prof. Cook's; but I do not attribute it to the same cause as he does. I think that it is caused by the space between the upper and lower cases. As cold weather comes on, the cluster contracts. With large combs small clusters of bees become isolated and chilled; they may not be killed outright, but their vitality is impaired. With the Heddon hive the center of the cluster is where the break comes in the frames, and all the bees can readily keep in the cluster.

Dr. Tinker—Mr. Taylor may be stating facts when talking of single-walled hives, but with properly constructed chaff hives his views would be untenable.

R. L. Taylor—In breeding up bees in the spring, I have decidedly the best results with the new Heddon hive, as compared with the Langstroth-Heddon hive.

The convention then adjourned until 7 p.m.

EVENING SESSION.

The convention was called to order at 7 p.m., with President Mason in the chair. The first question brought up for discussion was,

Sections Open on all Sides.

Dr. Tinker led the discussion, and spoke in substance as follows: Open-side sections afforded better ventilation. If the surplus apartment is divided into too small apartments, the ventilation is deficient, and more time is required for ripening the honey; hence not so much honey is secured. The combs are built out square and true to the edges, and the sections filled full. Italian bees, with closed-side sections, often draw in the comb—make it thinner—as they approach the uprights to the sections, connecting the comb to the uprights by merely a narrow ledge. With open-side sections this is avoided.

A. I. Root had noticed this drawing in of the comb as it approached the sides, but did not think that this was always the case. He recounted the experiments of Mr. A. Rice in the house apiary. He placed small sections inside of ordinary brood-frames, hung them the usual distance apart, and the bees filled them most completely. Later he tried the ordinary sections, wide frames and separators. After trying them he was led to exclaim: "I wish that the little scamps would fill out the sections as well as they used to in the old brood-frames!"

R. L. Taylor asked, why not get rid of the Italians, keep such bees as would fill out the sections whether open-sided or not?

Dr. Tinker admitted that black bees and some hybrids would give no trouble in this direction.

Frank A. Eaton—There is one objection to open-side sections, and that is in crating, the corners catch and tear the combs.

Dr. Miller had produced and shipped thousands and thousands of pounds of comb honey, and the sections were well filled, and bore transportation without loss from breakage, and they were close-sided sections.

Dr. Tinker still clung to the idea that more honey could be secured by using sections with open sides, and that with care in handling there need be but little if any damage done to the combs.

Next came a discussion upon,

How Can Safety be Secured in the Mating of Queens?

A. I. Root said that the appearance of hives had much to do with it. King birds sometimes probably catch them. Sometimes queens cannot fly. They leave the hive and cannot get back. To know whether a queen can fly, toss her up in the air.

Prof. Cook had scarcely lost any queens until the present season, when the loss was nearly one-half. Previous to this season the hives had stood in the shade of evergreens. These trees had been of different sizes, character and appearance. This year they were all cut away.

R. L. Taylor thought that bees and queens were guided in finding their hives by the larger surrounding objects, trees, etc., rather than by the hives themselves.

Dr. Miller did not think that increasing distance between the hives aided the bees very much. He would place the hives in groups.

Following this came a lively little discussion upon

The Use of Chaff Hives.

E. R. Root led in the discussion, very fairly presenting the good and bad features. They afforded protection from cold, also from the direct heat of the sun's rays. The bees are always ready for winter, so far as protection is concerned, and the cool nights of late summer do not drive the bees from the supers. With chaff hives there is no laborious carrying of bees in and out of the cellar. Mr. Root said that by referring to their statistics, they found that cellar wintering of bees predominated in Michigan, Wisconsin, Iowa and Minnesota; as far south as southern Ohio chaff hives and cellars held about equal sway; south of this, chaff-hive wintering of bees greatly out-numbered other methods.

Dr. Tinker thought that the saving in stores in the spring would alone pay for the expense of chaff hives.

Frank A. Eaton emphasized the point of leaving the bees in the cellar until the danger from cold is over; then the bees make rapid progress, and chaff hives are not needed.

Dr. Tinker replied that we often have frosts after warm weather has been "on deck" several weeks.

R. L. Taylor admitted that there might be a saving of honey by having the bees protected early in the year, but for actual work in the apiary, producing either comb or extracted honey, he could not endure using a chaff hive, and did not see how any man could. Their capacity is limited—only 50 sections can be used upon one hive, and it is often desirable to put on 100. Only one set of extracting combs can be used, and it is often desirable to use several. The hives are heavy and unwieldly, and if it were desirable to move an apiary to more desirable pasturage, chaff hives would almost prohibit it.

Dr. Mason called attention to the fact that 80 sections can be placed in a chaff hive.

R. L. Taylor—Oh, yes, if you put them in wide frames; but I can't "play" with my bees in any such way as that. When I said 50 sections, I meant when they are in cases so that you can *work* with them.

John Calvert called attention to the single-story chaff hives. It overcame most of the objections urged against the chaff hive.

R. L. Taylor—Yes; but the trouble is, the chaff hives do not do what is claimed for them. They do not winter the bees. A single-walled hive is just as good for wintering bees; with it the sun can warm up the bees; with a chaff hive it does not.

Dr. Mason would prefer to winter the bees in the cellar, but valued protection for them in the spring. If he wintered his bees out-of-doors, he would use chaff hives.

Mr. Chase mentioned that Mr. Shane had two apiaries. In one the bees are protected in the spring by packing; in the other they are not. The packed apiary always comes out ahead, and gives the best results.

Frank A. Eaton did not get in a hurry to take the bees from the cellar. They were left in until chaff hives were not needed.

The following interesting letters were then read:

DAYTON, O., Oct. 2, 1888.

MY DEAR FRIENDS:—I am very sorry to say that I cannot be present at your meeting at Columbus. I have taken

such a heavy cold that it will not be safe for me to leave home. It oppresses me so much that I cannot even commit to paper the essay which I have prepared.

I am more disappointed than I can well express, for I was looking forward to a very happy time in seeing again many of my old friends.

Wishing you a pleasant and profitable meeting, and desiring to be kindly remembered to you all, I remain very sincerely your friend,

L. L. LANGSTROTH.

PEORIA, Ills., Oct. 3, 1888.

I regret exceedingly that I am not meeting with you to-day. My poor health would not justify the outlay of strength necessary to travel all night to reach Columbus. I hope that Father Langstroth is there. I imagine I see him now, with his hand upon his cane, with his benignant face beaming upon all. MRS. L. HARRISON.

FOREST CITY, Iowa, Oct. 1, 1888.

Travel, reading, observation and conversation with bee-keepers in various parts of the State lead me to think that the crop of honey is light in Iowa this year. While the season has been better than last as regards the condition in which the bees will be at the beginning of winter, and perhaps also as to the quantity of surplus, it is mostly fall honey and off color, though the quality is good.

The severe drouth of 1887 so killed the white clover that it required all this season to regain its foothold in the pastures. I doubt if it is fully re-established now. So we got no white clover honey worth speaking of. Basswood (linden, if you like the word better) blossomed very full in 1887. This was its off year, and the yield light. The fall flowers yielded fairly well. Bees seem to be in good condition. I have not heard of any foul brood.

The Chapman honey-plant was tried to some extent. There is no doubt about the fondness of bees for it, but whether it would pay to cultivate for honey, is another question. A fine exhibit of bees, honey and implements was made at our State Fair, and at some of the local fairs. The art of bee-keeping seems to be keeping step to the music of progress in other departments of rural life.

EUGENE SECOR.

Upon taking a vote, it was decided to hold the next meeting at Brantford, Ont.

The convention adjourned until 9:30 a.m. the next day

SECOND DAY.

MORNING SESSION.

President Mason called the convention to order at 9:30 a.m. The first topic discussed was,

The Width of Sections.

J. H. Smith made several widths of sections, but sold ten thousand of the inch and seven-eigths to one thousand of any other width.

E. R. Root said that their experience was that of Mr. Smith's.

Frank A. Eaton said that it all depended upon whether separators were used. One inch and seven-eighths was the proper width with separators; if they are not used, the sections must be narrower.

Dr. Tinker preferred that the space between the top-bars and between the bottom-bars should be ⅞ of an inch, instead of the usual ¼ of an inch.

The next topic was,

When Shall Bees be Put Out of the Cellar?

Dr. Besse—When there is something for them to do. When they can gather pollen.

Dr. Miller—About two weeks after the right time. [Laughter and cries of "good;" "that's it."] I suspect that we put our bees in too late, and take them out too early. I used to take them out at the blossoming of the soft maple, but it has several times fooled me. Freezing weather came on again after the maples had blossomed.

Next came a discussion in regard to the subject of

Securing More Complete Organization Among Bee-Keepers.

Dr. C. C. Miller—We have local societies, State societies, and the North American Society; and the latter is largely local. Unless something is done to make it more completely a representative body, we might just as well kill it and done with it. I would suggest that the State and local societies send delegates, and pay their expenses.

Prof. A. J. Cook—The State and local societies will not do this, and I do not believe that this society is yet ready to die. Suppose that we do have a large local attendance, we also have a scattering attendance from abroad. We could have the different States represented by essays from their best men.

A. I. Root mentioned that religious bodies send delegates to meetings and conventions and pay their expenses. Apicultural societies might do the same. He would give more to see a man and hear him talk than he would to have an essay from him.

Upon motion it was voted that all State and local societies be invited to send delegates to the North American Society's conventions.

Next came an interesting talk by Prof. A. J. Cook, upon,

Experiments in Apiculture.

With one or two exceptions, the Michigan Agricultural College is the only one that has experimented in apiculture. Until lately there has been a lack of time in conducting the College apiary. At last an able assistant has been secured, and the passage of the Hatch bill has provided the funds, and the prospects are that much more will be done. One line of work will be that of crossing different varieties of bees; another, that of determining the value of special planting for honey; and the third will be in regard to the adulteration of honey. Rocky Mountain bee-plant, Chapman honey-plant, pleurisy-root, and perhaps others will be tried. Considerable is hoped for the Rocky Mountain bee-plant, as it flourishes in a drouthy climate. At present the bees at the College are a cross between the Syrians and the Carniolans, and they seem to possess the good qualities of both.

Prof. Cook feels sure that bee-keepers do not adulterate honey, neither does he believe that it is done by grocers. He considers them no more honest than many other classes, but adulteration does not pay. He does not believe that the chemist can tell positively in regard to adulteration, and experiments are to be made to determine, if possible, whether adulteration can be detected.

A. I. Root asked how Prof. Cook knew that their bees were a cross between the Syrians and Carniolans.

Prof. Cook—We do not know positively. There are no bees nearer than three miles. Besides, I have studied the characteristics of each race, and I cannot fail to recognize them.

Mr. Thomas G. Newman then addressed the convention in substance as follows upon the

The Importance of Experiments in Apiculture.

Mr. President, Ladies and Gentlemen:

The announcement just made by Prof. Cook, that he intends to commence the making of careful experiments on the four important points enumerated will give great delight to the devotees of our pursuit, because the promised experiments will cover the ground of not only the value of the different varieties of bees, but also the necessary pasturage to be provided, and the application of the most successful methods to be employed in

the management of the apiary for profit.

We know but a very little of the arts and sciences—only just what has been found out *by experiments*, or by accident! We have seen only that which we had eyes to see; and the value of experiments—of training—of delving into the unknown—of studying the possibilities—lies in the opening of our intellectual eyes to see what there is in Nature all around our pathway! Was Stephenson a genius? Was Franklin brilliant? No; but both of them were full of observation, perseverance and intelligence, and these characteristics were diligently aided by common sense.

It has been well remarked that if necessity was the *mother* of invention, surely an American was its *father!* Success lies in working with Nature, for it contains the secrets of all inventions. Here we may study, delve, guess, invent or copy to our heart's content. The human arm suggested the lever to Archimides. The human skull was well studied by Michael Angelo, who designed the dome of St. Peters. The waves of the fury-lashed ocean led Napier to invent the shape of the "bow" of a steamship best suited to plow the waves and triumphantly ride over its tempest-tossed bosom. The latter let us more fully describe, that we may learn a valuable lesson therefrom.

The first steamships built in Scotland dared not to venture out of the firths and rivers in stormy weather. But David Napier, the celebrated marine engineer, thought that they could be so built that they could navigate the ocean in all kinds of weather, and accordingly he determined to know and personally observe the difficulties to be encountered and overcome.

Sailing packets were then running between Glasgow and Belfast, and he selected a stormy period of the year to make that voyage, in order to study the waves when driven with fury, for St. George's Sea is noted for its dangers, and the number of its shipwrecks. He stood for hours at the "bow" of the packet, watching the breaking of the waves—now and then leaving that chosen post to inquire of the captain if he considered the sea *rough*. When assured that so far it was nothing unusual, he returned to his post with disappointment.

The drenching spray he cared naught about, but the "ordinary weather" made him impatient. At last the wind increased—it blew a gale—and wave after wave "swept the packet from stem to stern." With this he was delighted, and dripping with salt water he made his way to the captain and asked, "Captain, do you think it is rough *now?* who replied, "I never faced a worse sea, sir!"

Napier exclaimed, "Well; if that is all, I think I can master it!" He went below to meditate, and on his return to Glasgow, he began to *experiment*—just as Prof. Cook now promised us to do, but in another line. He aimed to discover the shape of the "bow" which would go through the water with the least resistance.

His observations, taken while being drenched with the waves at the "bow" of the packet, convinced him that the round bow of the sailing vessel was not calculated for a fast steamship.

Repeated *experiments* led him to believe that the fine wedge-shaped "bow" would revolutionize the world in the matter of steamship building. Then it often required several days to sail between Glasgow and Belfast! Now it requires but nine hours—all because of the experience and *experiments* of that undaunted marine engineer.

Now our modern "Napier," who has taken special pains to find out what necessity requires, will retire to his quiet haunts at the State Agricultural College, away up in Michigan, to meditate and *experiment* on the four important points which he enumerated a few minutes since! Let us hope that he will discover and bring to light matters and methods as important to progressive bee-culture as did Napier to ocean travelers, but a few years ago.

We all are aware that the survey precedes the building of the railroad, and the reconnaissance locates the field and line of battle. Just so is it with us, at this time. Prof. Cook knows the difficulties to be encountered—he has "studied the waves of adversity" which have repeatedly dashed over our chosen pursuit, and caused much consternation. He has "surveyed the line" upon which it is to be hoped we can all ride to success; and located the plan of battle which may give us the victory. We shall anxiously await the result of his meditations.

Bee-Pasturage.

One of the cardinal points is that of providing pasturage for the bees. He proposes to plant ten acres of the Rocky Mountain bee-plant—to plant broadcast, and let it take care of and perpetuate itself. This matter of planting for honey has been a pet theory for years, with me, and I hail the day for an *experiment* on a large scale, feeling assured that it is one of "the winning cards."

Those depending on the wild pastures for bee-forage should not fail to plant for honey, and thus secure a good crop every season, as the years come and go. If *drouth* comes and finds them depending on streams which dry up, they are then the sufferers.

They should have pastures for the bees, with plants having deep roots to go and seek the moisture below, or else have pastures that can be watered from convenient wells or ponds, and thus aid Nature to secrete the nectar in the dry times.

Every season teaches some new and useful lesson. Those who heed these lessons are on the rise. Those who do not are on the down grade. Will apiarists be content to repeat each year the mistakes of the former one? If they are wise, No. If they are heedless and unprogressive, Yes.

Honey Adulteration.

It has been asked here and elsewhere if extracted honey is now being adulterated? I answer, No. It will not pay to adulterate honey at its present very low price, and hence it is not practiced, for even the thieves and adulterators will not ply their nefarious business when it is unprofitable to do so.

As to the adulteration of comb honey, the truth about that is out at last. Wiley, Evans & Co., have been driven to the wall, in two ways; first by their having been forced to confess that there was nothing upon which they could build their "bogus comb-honey" story, except the wild imagination of a diseased brain; and the fun of perpetrating a very *un*-scientific pleasantry!

And, in the second place, immediate sale of the small crop of honey had made bare the great marts of trade, and while the demand was urgent, and the prices high, not a single pound of the bogus comb honey could be found! More than anything else, this shows the falsity of the claim, and exposes the *lie* about "combs being made of paraffine, filled with glucose, and sealed by machinery?"

Not a crate—not a section—not a pound—not a cell of the bogus "comb honey" can be found on the markets! Not even the advanced prices can bring it to the front! If it was in existence, how the manufacturers of the bogus stuff would jump at the chance to sell it! How they would run the machinery night and day to fill the demand!

The citadel is stormed!
The giant is slain!
Comb honey is vindicated!
Prof. Wiley's lie is exposed!
The peddlers of the lies are rebuked!
The "prince of lies" is defeated.
The honey crop failure did it.

THOMAS G. NEWMAN.

A. I. Root mentioned that Dr. Miller had secured large quantities of honey from 200 acres of cucumbers raised near him. This showed that honey could be secured from *that* plant.

Dr. Miller—I think no one person, unless it is Mr. Root, has done so much planting for honey as I have. Because Prof. Cook finds some plant valuable for honey, it does not follow that we shall all find it valuable; still, we are glad he is doing something in this line. Does the Professor expect to cultivate his Rocky Mountain honey-plant?

Prof. Cook—No; we cannot do much in the line of cultivation. A plant to be of value must be able to take care of itself, a sort of "root hog or die" plant.

A. I. Root—What better does Prof. Cook expect to find the Rocky Mountain honey-plant than is buckwheat?

Prof. Cook—It will stand drouth. It is brought up on dry weather. A dry locality is its home.

Dr. Mason said that he had been in attendance at the Ohio Centennial for the past five weeks, and it was astonishing to see the amount of belief there is in the adulteration of honey.

R. F. Holtermann then gave the following address on the

Value of United Experiments in Apiculture.

Who amongst bee-keepers does not look back with deep and heartfelt gratitude to such men as Huber, Dzierzon, Langstroth, Quinby, and a host of others? and it takes but a moment of reflection to bring to our mind's eye a picture of these men toiling day after day, yes, year after year, to gain a perfect and reliable knowledge of the natural history and habits of the honey-bee. What vast benefits apiculture has derived, and what great strides it has made to make it an important branch of agriculture, not only the bee-keeper but every well-informed citizen knows.

Why is it that so much credit is due these men? Because they stand out and above other men of their day—because they were leaders and benefactors. True, they stood comparatively alone, and had to follow their researches too often unaided, and not only with no one to cheer and help them, but rather, with those about them to sneer and misunderstand. Now these men are leaving, and have left, a rich legacy to prosterity. They have not followed their own selfish aims and ambitions, but in some instances have gained no temporal advancement, and for our benefit.

Are we then making the best use of our advantages? Are we doing our duty faithfully, are we making use of that intelligence which we so rightfully claim as characteristic of bee-keepers, and are we with these advantages—so much greater in our age than those of our fathers—preparing a legacy for posterity? We are doing much, but not all that we might.

The Manager of our Bee-Keepers' Union uses the old and true motto, "In union there is strength;" this is pre-eminently true of researches or experiments. We have not the plea that our forefathers had; we have numbers who are only waiting to do such work in union, and we have organizations and means of advertising and reaching them, that our fathers never had. Let us then organize and do the most that skill and energy can devise.

Every branch in agriculture is ahead of us. How many associations are performing experiments through its members. Let us then cast aside in this matter all other motives, and together aim at the elevation and perfection of our chosen pursuit, laying aside all petty jealousies, all desires to self-elevation, and in *union* conduct the experiments decided upon to investigate, no matter who may have led us in that direction.

I believe that one of our greatest failures has been, coming to conclusions too rapidly. A new and (as far as theory goes) grand idea impresses us, or the result of one season's experience leads us to believe we have made a discovery which will immortalize our names, and we advance and defend that discovery only to lead others and ourselves astray. Now if we want to be of the greatest use, we must keep under, these our sanguine and selfish dispositions, and in the calm light of reason and lofty desire to advance and elevate apiculture, unite and decide upon some line of experiment; and right here is the difficult question to decide, what shall that be?

I had the honor of being appointed one of a committee by the "Ontario Agricultural and Experimental Union," to decide upon a line of experiment for those of its members interested in bee-keeping. After study the committee felt that so important was it to decide upon the most practical and easily conducted experiments, that we decided upon consulting the members of the North American Bee-Keepers' Society, and the members of the Ontario Bee-Keepers' Association in convention, before taking any decided step in the matter.

The thought was, to have two or three lines of experimentation, and these for the different seasons of the year. For instance, we have men who are able, and have the time and means at their disposal, to make minute and scientific researches of practical value. Again, we have those who have many colonies who can conduct researches, where a large number of colonies are advantageous, but who cannot undertake anything which will require a great outlay of time.

Again, those who have fewer colonies, who are plain, practical men, and could conduct ordinarily careful experiments, in spring, summer, autumn and winter, and those again who could only conduct them during one or more of these seasons. Every opportunity should be given to every bee-keeper to join in something. In wintering bees, especially, there should be no drones in the hive. I hesitate to set forth what we shall experiment upon—my desire is rather to rivet your attention upon the grand possibilities before us, knowing that practical minds here, will do the rest.

Of course we can never take the place of a man who can devote his life's energies to experimental work, and can secure what necessary means are required to conduct his labors properly—at the same time we can attain results that he never can, and in a shorter time.

Let us lose no time. Let a line of work be decided upon for the coming winter and the coming year. How vast a work can we accomplish, how great our sphere of usefulness by earnest, careful and conscientious work!

In one year, in certain directions, we can make more progress by this method, than before in ten. But I need not point out to a bee-keeper the advantage to be secured by united, whole-souled organization to accomplish any work; no more fitting example of this can be found than in the homes, the occupants of which we are the "masters." R. F. Holtermann.

The convention then adjourned until 2 p.m.

OHIO.

The Report of the Ohio State Convention.

The Ohio State Bee-Keepers' Association held its sixth annual meeting in conjunction with the North American Bee-Keepers' Society on Oct. 3, 4, and 5, 1888, at Columbus, O. A special business session was held on Oct. 4, for the election of officers for the coming year, which resulted as follows:

President, H. R. Boardman, of East Townsend; Vice-President, John Calvert, of Medina; Secretary and Treasurer, Miss Dema Bennett, of Bedford.

On motion the convention adjourned to hold the next annual meeting at Cleveland, O., on the call of the executive committee.

Frank A. Eaton, *Sec.*

CORRESPONDENCE.

SPANISH-NEEDLE.

Good Flow of Fall Honey—A Streak of Luck.

Written for the American Bee Journal
BY JOS. M. HAMBAUGH.

Having two out-apiaries in connection with my home apiary and farm work combined, has made this one of the busiest seasons on record. Did I sit down and pine over the discouraging results of last year? Hardly. I simply made the best of circumstances, and set myself to work with renewed zeal, notwithstanding the taunts of the "wiseacres" and "knowing ones," who from the beginning said, "I told you that you would get bee-stung."

Well, my bees were divided as before stated, into three yards, the ones at home composed of Italians and hybrids, and all three yards were accessible to linden timber. White clover was a complete failure, and many colonies had to be fed to bridge them over from fruit-bloom to basswood, and when this bloom came—which was the most profuse I ever saw in this section—the bees seemed to revel in their glory, and our long-pent-up enthusiasm was boundless.

We were too sure, however, for though the surplus receptacles were quickly filled, the nectar seemed exceedingly crude, and we waited patiently to see the white cappings appear—the apiarist's criterion for ripe honey. The golden plumes began to drop, and seed-balls appear, and yet our honey was uncapped.

On July 19 the attention of the bees was drawn to the river bottom, only from one-half to a mile distant, and having adverse experience with honey-dew and dark honey, I concluded that I would not allow the linden honey to mix with it, and I extracted, and now comes the problem of getting rid of about 1,000 pounds of unripe linden honey.

It was about this time that button-bush began to yield quite a showing for honey, and brood-rearing and swarming was the order of the day, where colonies were not given plenty of room, and this served to put all the colonies in splendid condition for the fall harvest. It was a sight to see the seething mass of insects issuing from a 3-story, 10-frame Simplicity hive, with one inch blocks under the front corners to give them vent, and one would wonder how many of the 8-frame divisible brood-chamber hives it would take to produce the same results.

Never in my memory have I seen honey come in as lively as it did during the *cereopsis* or Spanish-needle flow; and the beauty of it was, it seemed to be "already cooked," and almost as soon as the cells were filled, they were sealed. One colony produced 73 pounds of honey in five days' time; another one, 86 pounds in ten days; and the gross receipts from 42 colonies at the home apiary was 2,009 pounds of honey at one extracting, and they had been extracted from but 5 to 8 days previous—an average of 47 pounds per colony.

My other apiaries did remarkably well, but the Italians and hybrids "get away" with the ordinary bee by odds. The total product of one Italian colony of bees was 264 pounds. I am not prepared to give any report just yet, but it will aggregate nearly 10,000 pounds. So please do not class me among "blasted hopes" and one of the "bee-stung."

Spring, Ills., Oct. 8, 1888.

CONVENTION DIRECTORY.

1888	*Time and Place of Meeting.*
Oct. 20.—	Wabash County, at Wabash, Ind. Henry Cripe, Sec., North Manchester, Ind.
Nov. 14.—	Alabama State, at Montgomery, Ala. J. M. Jenkins, Wetumpka, Ala.
Nov. 21, 22.—	Pan-Handle, at Wheeling, W. Va. W. L. Kinsey, Sec., Blaine, O.
Dec. —.—	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

More than Half a Crop.—Daniel Sheldon, Strawberry Point, Iowa, on Oct. 5, 1888, says:

Although the first bloom of white clover yielded but little honey here, basswood, second bloom of white clover, horse-mint, golden-rod, etc., have kept the industrious little workers busy until they have secured more than half a crop in this section. Bee-keepers are not discouraged here. I have had uniform success in cellar wintering of bees. I raise the hives up on inch blocks, keep the temperature at about 40°, and remove the dead bees frequently.

Buckwheat and Alsike Clover.—C. A. Bunch, La Paz, Ind., on Oct. 8, 1888, writes:

As I believe that buckwheat always produces nectar in this locality, I value the plant very much. I do not think that it produces a large amount of honey, though it puts the bees in good condition for golden-rod, which out-stripped all plants and honey or nectar-producing trees here this season. There was ten acres of buckwheat in less than one-half mile of my apiary, which was alive with bees almost every morning until 9 a.m., and on some warm, misty days until later or nearly noon, although August and September were very dry months, with very little rain. I think that my 28 colonies stored some over 200 pounds of honey from buckwheat in one-pound sections, which is not so bad, I think, considering the season we have had. I have had a small amount of Alsike clover on my place for the last two years, which seems to be good as a honey-plant, as well as for pasture. I expect to sow a half bushel of Alsike clover next spring.

No Surplus Honey.—Henry A. Hyle, Redwood, N. Y., on Oct. 5, 1888, says:

I now have 5 colonies of bees, but I received no surplus honey this year, and I will have to feed my bees pretty well to make up for the lack of honey for winter stores. I lost 4 colonies last winter. I have a good location for keeping bees, and after three years' experience. I think that I am safe in keeping more bees than heretofore.

Hardly an Average Fall Crop.—W. M. Woodward, Custer Park, Ills., on Oct. 6, 1888, writes:

The honey crop has been slow here. There was none at all until corn tasseled, when honey began to come slowly from corn, and has continued to come from heart's-ease and other fall flowers. The fall crop is hardly an average one, but a great blessing for these times.

Molasses Barrels and Jugs for Honey.—F. C. Erkel, Le Sueur, Minn., on Oct. 7, 1888, writes:

My bees have done as well as could be expected considering the season. I moved 35 colonies last spring, by wagon, 12 miles, on 2 or 3 feet of hay, and found the combs all in good condition with one exception, and they were not very bad. I got no honey from clover this year, but the bees made things lively for a few days on basswood, but it did not last long; however, they filled up below in the hive, and I got some nice white comb honey.

Autumn flowers yielded well, and I obtained considerable comb honey from that source, besides a little more than doubling my stock. The bees were determined to swarm late, and kept me busy putting them back. I have more than I want now, and think that I shall kill 15 or 20 colonies and extract the honey. I have a great deal to learn about bees yet, especially how to produce comb honey. I would like the following questions answered in the BEE JOURNAL: 1. My 10-frame Langstroth hives are nearly all full. Would it not be advisable to extract from two or three frames before getting them ready for the cellar? 2. Would it be advisable to put extracted honey in second-hand molasses barrels, such as can be bought at groceries? 3. How would common one-gallon jugs do to put extracted honey in, if the honey was heated to keep from granulating?

[1. Yes.

2. If you do not care to preserve the flavor, the molasses barrels may be used. If you do want the flavor preserved, use new kegs or new barrels.

3. If it granulates, you will find it troublesome to liquefy and handle it.—ED.]

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

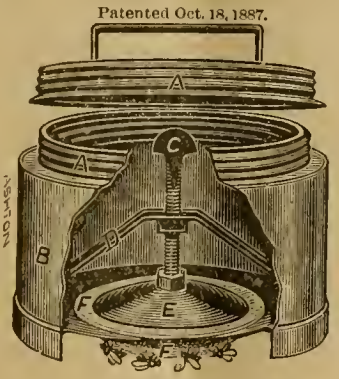
Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 120 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers'Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 60
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers..	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Iowa Homestead	2 00	1 90
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Hastings' Perfection Feeder.—This excellent Feeder will hold 2 quarts, and the letting down of the feed is regulated



by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality a remunerative prices. See list on the second page of this paper.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1, postpaid.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Conventions.—The time for holding Bee-Keepers' Conventions has now arrived, and we cannot give any better advice than this: Let each one attend who can do so, and take part in making these meetings interesting and instructive. If you have not already obtained the "Bee-Keeper's Convention Hand-Book," do so at once to post yourself up on how to conduct such meetings correctly. It contains a simple Manual of Parliamentary Law and Rules of Order for the guidance of officers and members of Local Conventions—Model Constitution and By-Laws for a Local Society—Programme for a Convention, with Subjects for Discussion—List of Premiums for Fairs, etc. Bound in cloth, and suitable for the pocket. Price, 50 cents. We will club this book and the AMERICAN BEE JOURNAL for one year for $1.25. It also contains a lot of blank leaves on which you can note important matters as they come up. Do not fail to send for a copy of it.

Nature's Way.—This is the title of a 15-cent pamphlet entitled, "G. M. Doolittle's Method of Rearing Queens"—which is called "The nearest approach to Nature's way yet devised." It describes his method, and points out its advantages. For sale at this office.

Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time? A good weekly at one dollar a year is surely cheap enough to command patronage.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Queens.—We can mail a Tested Italian Queen (bred for the best results as well as for beauty) for $2.00; Untested Queens $1.00 each, or $9.00 per dozen. Orders solicited.

We Have some copies of the old edition of Cook's Manual left, which we will sell at the old price, $1.25. The price of the new edition is $1.50 per copy; a notice of which may be found on page 579.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c. R. A. BURNETT,
Sep. 12. 161 South Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—We quote. Fancy white 1-lbs., 17@18c.; 2 lbs., 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8½c.; buckwheat, 5½@6½b.; California extracted, white sage, 7½@7¾c.; amber, 7¼@7½. Demand good and prices firm. New comb honey is arriving quite freely.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Oct. 10. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 11@12½c.; 2-lbs., 12½@1 c.; amber, 8@10c. Extracted, white, 5¾@6c.; light amber, 5¼@5½c.; amber and candied 4¾@5c. Receipts light and market firm for best qualities.
BEESWAX.—Dull at 19@22½c.
Sep. 22. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white comb, 17@18c.; dark, 16c.—Extracted, 8@10c. Market bare of all kinds.
BEESWAX.—21@22c.
Sep. 24. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 4½@8c. per lb. Comb honey, 12@16c. Demand slow.
BEESWAX.—Damand is good—20@22c. per lb. for good to choice yellow, on arrival.
Sep. 18. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c; dark 1-lbs., 14c.; 2-lbs., 13c., dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.
BEESWAX.—None in market.
Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 1@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c; light amber in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.
Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-pounds, 16@17c.; best 2-lbs., 15@16c. Extracted, 8c.
BEESWAX.—25 cts. per lb.
Oct. 10. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs. 17@18c.; dark, 14@15c.; California white 1-lbs., 17c.; dark, 14c. Extracted white 8c.; amber, 7c.
BEESWAX.—None in the market.
Oct. 11. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, 4½@5½c.; if in cans, 8@9c. White clover comb, 14@15c. Market is steady and receipts light.
BEESWAX.—21c. for prime.
Sep. 6. D. G. TUTT & CO., Commercial St.

MILWAUKEE.

HONEY.—New white 1-lb. sections 18c., and very fine, 20c.; 1-lbs. 15@18c.; old 2 and 3 lbs., not salable, 1½@14c.; dark 1 lbs., old or new, 12@13c. Extracted, new white in kegs and ½-barrels, 8@9c.; old, in same packages, 7@8c.; in tin, 8@9c.; dark in barrels or ½-barrels, 6@6½c. Arrivals of new crop small; demand not urgent, and only very moderate trade.
BEESWAX.—22@25c.
Aug. 31. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6 cents; light amber, 5¾c.; amber, 5¼@5½c. Comb, 1-lbs. 13@14c; 2-lbs., 10@13c.,
BEESWAX.—20@22c.
Sep. 24. SCHACHT & LEMCKE, 122-124 Davis St.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

Convention Notices.

☞ The Wabash County Bee-Keepers' Association will hold their fall meeting in the Court House at Wabash, Ind., on Oct. 20, 1888, at 10 a.m. All bee-keepers are cordially invited to meet with us.
HENRY CRIPE, *Sec.*

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee-keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The Alabama State Bee-Keepers' Association will meet at 10 a.m. on Wednesday, Nov. 14, 1888, at the office of the Secretary of the State Fair (in the Fair Building), in Montgomery, Ala. Members are urged to attend, and all persons interested in bees and honey are cordially invited.
J. M. JENKINS, *Sec.*

Advertisements.

The American Apiculturist

WILL be mailed from Oct. 1, 1888, to Jan. 1, 1890, for 75 cents. The "Bee-Keeper's Handy-Book" will be re-written the coming year, and all will be published in THE APICULTURIST during the year 1889. The first article will be presented in the Nov., 1888, issue.

Our method for rearing QUEENS in full colonies will be published in pamphlet form, and a copy given to each subscriber. Address,

AMERICAN APICULTURIST,
42A1t WENHAM, Essex Co., MASS.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

WANTED,

Beeswax.—We will pay **20 cents** per pound, delivered here, for Yellow Beeswax. To avoid mistakes, the name of the shipper should always be on each package.

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILLS

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Oct. 24, 1888. No. 43.

EDITORIAL BUZZINGS.

There's always a River to cross,
Always an effort to make,
If there's anything good to win,
Any rich prize to take;
Yonder's the fruit we crave,
Yonder the charming scene;
But deep and wide, with a troubled tide,
Is the river that lies between.

What a Woman Can Do.—Mrs. J. N. Heater, of Columbus, Nebr., is one of the best-known exhibitors of Honey and Bee-Supplies in America. Speaking of her exhibit at the State Fair at Lincoln, the Columbus *Journal* remarks thus: "Aside from its newspapers, mills and banks, there is probably no single business represented in Columbus that better advertises the city than the business transacted by Mrs. J. N. Heater." And of her attractive exhibit at the State Fair, the Lincoln *Journal* says:

Each succeeding year the apiary department finds Mrs. Heater, of Columbus, present with a large showing of comb and extracted honey, wax, implements, and bee-keepers' supplies.

The exhibit is in the form of a large pyramid of jars of honey arranged around an ornamented velvet back-ground, bearing the name and residence of the exhibitor.

This exhibit shows to advantage what well-directed intelligent study and years of experience can do in this direction, and all who visit the State Fair should not fail to visit Apiary Hall and inspect this exhibition.

Good exhibits of bees, honey and beeswax at Fairs, will do more to educate the people, and help the sale of honey than anything else. The apiarian exhibit at Columbus, Ohio, Centennial was a greater attraction than almost any other display. Realizing this fact, the managers of the Fair put up a building especially for it this year, and it pays well.

A Friend of the Bees.—The Washington, D. C., *Star* of Oct. 8, 1888, contains the following announcement:

Mr. J. P. Miller visited the Agricultural Department to-day to secure the co-operation of the Commissioner of Agriculture in obtaining legislation to protect the public and the bee-keepers against spurious honey. As credentials, Mr. Miller brought an interesting colony of Italian bees with him in a case, and placed them on exhibition in the Museum "Zoo."

Mr. Miller stated to a *Star* reporter that what the bee-keepers want is a law similar to the oleomargarine law, requiring manufacturers of artificial honey to stamp their wares, so that the public will not be deceived in purchasing it. The artificial honey, he said, is composed of three-fourths of glucose and one-fourth of real honey. This, he said, was not injurious, but he did not think it ought to be sold as real honey. The bee-keepers, he said, did not fear the competition of the artificial product. What they did fear was that the adulterated article would make people suspicious of all honey.

The reporter for the *Star* confounds the terms "artificial" and adulterated—the stuff he describes as one-fourth of honey and three-fourths glucose is the ordinary *adulterated* article, and it should not be allowed to be sold without being labeled "glucose honey," as suggested by Mr. Miller.

But now, when liquid honey is sold for about the same price as the best grade of glucose, there is but little danger of any one taking the trouble to adulterate it, when it will not pay them handsomely to do so. Those who sophisticate, do so for profit, not for the *fun* of doing so.

The pursuit of bee-keeping is to-day suffering far more from the effects of the *lying* done by Wiley, Evans & Co., than it is from adulteration. These fellows *adulterate* the truth and *lie* about the product; and in that way cause public distrust, and suspicions concerning all the honey produced—whether in or out of the comb!

Arkadelphia Bee-Suit.—Concerning this lawsuit the Bee-Keepers' *Guide* has the following letter from the present Mayor of the city of Arkadelphia, dated Sept. 28, 1888, which brands the whole thing as a "persecution," and says that it was "more personal malice than anything else:"

DEAR SIR:—In reply to yours of the 25th inst., and referring to the Z. A. Clark bee-case, I would state that the case came up for trial at the last term of the Circuit Court. The attorney for Mr. Clark waived a jury trial, but submitted the case to the Judge on certain points of law questioning the right of the city authorities to declare bees as a nuisance, *per se*. Judge Hearn, of our Circuit Court, took the matter under advisement, and on the following week rendered his decision in favor of Mr. Clark.

The city attorney has taken an appeal to the Supreme Court of the State, which, I think, will affirm the decision of the Circuit Court, as Judge Hearn supported all the points of law offered by the Hon. Sam Williams, who is Mr. Clark's attorney (or rather represented the Bee-Keepers' Union in this case), and was determined that he would give an opinion that would hold.

My sympathies had been with Mr. Clark, and I was one of his bondsmen on the appeal. His persecution was the work of my predecessor in office, and I thought it more personal malice than anything else.

I state this to free myself from any odium attachable to this case. Mr. Clark's friends used my name and elected me as Mayor as a rebuke to the party that persecuted him.

Yours truly, L. J. WEBER.

We are expecting to hear the result of the appeal every day, and shall give it to our readers at the earliest possible moment. In the above letter Mayor Weber says he thinks the Supreme Court "will affirm the decision of the Circuit Court," and declare that the pursuit of bee-keeping is **no nuisance.**

English Artificial Honey.—One of our exchanges, while enumerating a number of artificial things, says that a man by the name of Lyle has taken out a patent in England (Patent No. 8,863) for making "artificial honey." This is what he says about it:

C. Lyle patented a mixture of grape sugar, fruit sugar and glucose (dextrose, levulose and glucose), with the addition of fruit essences, and thinks this compound is equal to any natural honey.

It certainly is not less palatable than the honey analyzed at the controlling station at Berlin, Germany, which had been imported from Holland, and was found to be made up of glucose and oleomargarine.

The proof of the letter is found in Mittheil, a. d. Chem. Tech. Versuchsanstalt in Berlin, 1886, page 14. The proof of the former can be found in the English Patent Office files for 1885.

While we have no desire to injure the feelings of our English brethren, or make an offset for the "fun" they have been "poking" at Americans about "adulterating bee-farms" in this country (which, however, exist only in imagination) we would like to have them look this matter up, and tell us what there is in it. We especially commend it to the consideration of our friends and co-laborers, Mr. Thomas W. Cowan, editor of the *British Bee Journal*, and Herr Vogel, editor of the *Bienen Zeitung*. Let us hear from these gentlemen about these dextrose-levulose-glucose-oleomargarine combinations! Are they any more tangible than the adulterating bee-farms? Let the light shine upon them!!

Commenting upon an item on page 595, on the best place to keep comb honey, Mr. H. M. Moyer, of Hill Church, Pa., says: "Ventilation is as important as heat. If I put comb honey in a close room, with temperature at 80° to 85°, and no ventilation, it will sweat; but if I give it plenty of air, it will be all right." The "point is well taken"—let it be ventilated.

The Pamphlet Report of the Columbus Convention is now issued, and copies have been sent to each member, as well as to the Colleges, Agricultural and Horticultural Societies and periodicals devoted to the industry. Copies can be obtained at this office, by mail, postpaid, for 25 cents. This pamphlet contains the new bee-songs and words, as well as a portrait of the President of the Association.

GLEANS OF NEWS.

Paris World's Fair.—It has been previously announced in these columns that Prof. N. W. McLain has been entrusted by the Department of Agriculture with the work of preparing and forwarding to Paris an exhibit of apiarian products and supplies, as well as methods and machinery employed in the pursuit of bee-keeping. Some are inquiring for the particulars concerning this great enterprise, and we will here quote from the New York *Mail and Express* the following :

The Universal Exposition of 1889, at Paris, promises to be one of the largest and most successful of the world's fairs held in recent years. Elaborate arrangements for the reception and display of the exhibits are well under way, and unusual facilities both for the transportation of goods from this country and their care are assured.

The French government extended a formal invitation to the United States to take part in the Exposition. The invitation was accepted by a joint resolution of the Senate and House of Representatives, and the governors of the several States and Territories were requested to invite the people to assist in the proper representation of the products of American industry, and of the natural resources of the country.

The President was directed to appoint a commissioner-general and an assistant commissioner-general, to make all of the arrangements for exhibits, and represent the government at the Exposition. He was also directed to appoint nine scientific experts as assistants to the commission, each to be assigned to one of the nine groups into which the exhibits will be divided.

Provision was made for the salaries of the commissioners and the necessary assistants, and the sum of $250,000 was appropriated to be used under the direction of the Secretary of State to defray all expenses. The action of Congress was approved May 10, and the President has appointed General William B. Franklin, Commissioner-General, and Mr. Somerville P. Tuck, Assistant Commissioner-General.

The Expostion will open May 5, and close Oct. 31, 1889, and there will be no charge for space occupied by exhibitors. The commission will forward and return all articles received, free of freight charges.

Goods of exhibitors who are unable to go to Paris, or send representatives, will be cared for free of all expense, except that of unpacking and repacking. There will be no duties to pay except on goods that are sold or consumed.

The exhibition is to be divided into nine groups or departments, as follows :

1. Works of art.
2. Education, and processes used therein.
3. Plain and decorative house furniture.
4. Textile fabrics.
5. The raw and manufactured products of mining, forestry, chemistry, etc.
6. Apparatus and methods of mechanical industries.
7. Food products.
8. Agriculture, vine culture and fish culture.
9. Horticulture.

The French government has appropriated 43,000,000 francs toward the expenses of the Exposition.

The buildings for the exposition are now nearly completed. They occupy the Champ-de-Mars and the Trocadero Palace and Park on the banks of the Seine. In the Park at the entrance to the exhibition on the Champ-de-Mars the wonderful Eiffel Tower is now in course of erection. It is to be entirely of iron, and 1,000 feet in height. Its object is to show the triumph of modern engineering skill. It will be furnished with an elevator of American manufacture.

On the right of the tower is the Palace of Liberal Arts, and on the left the fine Palace of Fine Arts. Large gardens occupy the centre of the square, and at the back is the main building, or the gallery of machines, as it is called. The buildings are magnificent structures of glass and iron, lighted by electricity, and fitted with every modern convenience.

It is expected that the total number of exhibitors from all countries will reach 30,000; it is estimated that 12,000,000 persons will enter the grounds and buildings. Some idea of the magnitude of the exhibition may be gained from the fact that the total area of buildings and enclosed grounds, which is to be lighted by electricity, is 3,000,000 square feet. The space allotted to the United States is about 75,000 square feet. W. B. Franklin is the United States Commissioner-General, and the office of the United States Commission to the Paris Exposition of 1889, is at 35 Wall Street, New York City, N. Y.

Unfavorable Weather for the Queens.—Henry Alley, Wenham, Mass., on Oct. 8, 1888, writes as follows about the unfavorable fall weather in the East :

This has been the worst fall I ever knew for the queen business. I have lost more than 200 queens, for the reason that they could not take a flight to mate. There have been but three favorable days since Aug. 25, for queens to fly—cold, cloudy and rainy all the time. I have had to purchase 600 pounds of sugar to feed to bees for winter. Had the weather been as good as it generally is in September, I would have had honey to sell from the fall crop. As it is, I had to buy sugar. Golden-rod never was more abundant.

A Race Between Pigeons and Bees.—Prof. J. P. Miller, who is exhibiting bees at the Casino Museum at Pittsburg, Pa., sends us the following item from the Pittsburg *Press* of Sept. 22, 1888, which we give for what it is worth :

The oddest race I ever heard of was one lately flown in northern Germany between bees and pigeons, says a correspondent in the London *Illustrated Sporting and Dramatic News*. Twelve pigeons and 12 bees (4 drones and 8 working bees) were taken an hour's distance from their home at Hamm and freed simultaneously. My informant tells me that a drone won the race, arriving four seconds in advance of the pigeon, the three other drones and a second pigeon came next together, and the eight working bees preceded the remaining ten pigeons by a length, I am told, but what sort of a length I do not know. If a bee beat a pigeon a length—that is to say, by a bee's length—it would be a very precise judge who did not give the result a dead heat. I should certainly have supposed that a bee would not have had a 1,000 to 1 chance with a pigeon, but I confess that I have no idea of the bee's best record for an hour's flight.

Do Not Ship Honey to Us without first corresponding with us about it. We have received several undesirable lots without previous notice, or correspondence of any kind.

Fall Honey for Winter Stores.—The Orange Judd *Farmer* for Oct. 6, contains the following very characteristic article on the above subject, and the joy experienced by bee-keepers over the crop of fall honey secured. It says :

Bee-keepers are smiling, yes, almost laughing, and with good reason, because after the failure of the first and second flow of honey, and while bee-keepers were in their last days of grace, the bees have filled their hives full, even to overflowing. No feeding had to be done to keep the bees from starving during the winter. Such is the experience of Mrs. L. Harrison, the Queen bee of Peoria, Ills., as given the O. J. *Farmer*. She continues: There is one consolation to be derived from the poor season, and that is this, that bees usually pass the following winter in safety. Queens have had plenty of room to deposit eggs, and young bees crowd the hives. They are full of vitality, and will keep the poor old bees warm, and well they may, for the old ones have worn their wings, until they are all ragged and torn, in carrying home supplies to rear the young, and for food in winter.

Those who have been fortunate enough to secure honey for sale, should demand a good price for it, as there is very little to be had in this country or England. I know of but one apiary in Illinois where white honey was secured, and that is located in the river bottom, and the honey was gathered from button-bush, which grows in the water ; so it was not injured by two previous years of drouth.

Frank Leslie's Sunday Magazine for November continues the beautiful story, "Genevieve ; or, The Children of Port Royal," and in addition provides a charming Thanksgiving story, by Fannie Aymar Matthews, entitled, "A Leaf from the Log of the *Neitje*." There is also a story, "A Charm of Halloween," by Mrs. Alexander. "The Story of Zenana Missions" is well told by Emma Raymond Pitman. The pictorial features of the number are as abundant as ever, and some of the pictures are very beautiful. The last page is occupied with an exquisite composition by C. Wenham Smith, organist of Plymouth Church, Brooklyn, to Faber's hymn, "Pilgrims of the Night."

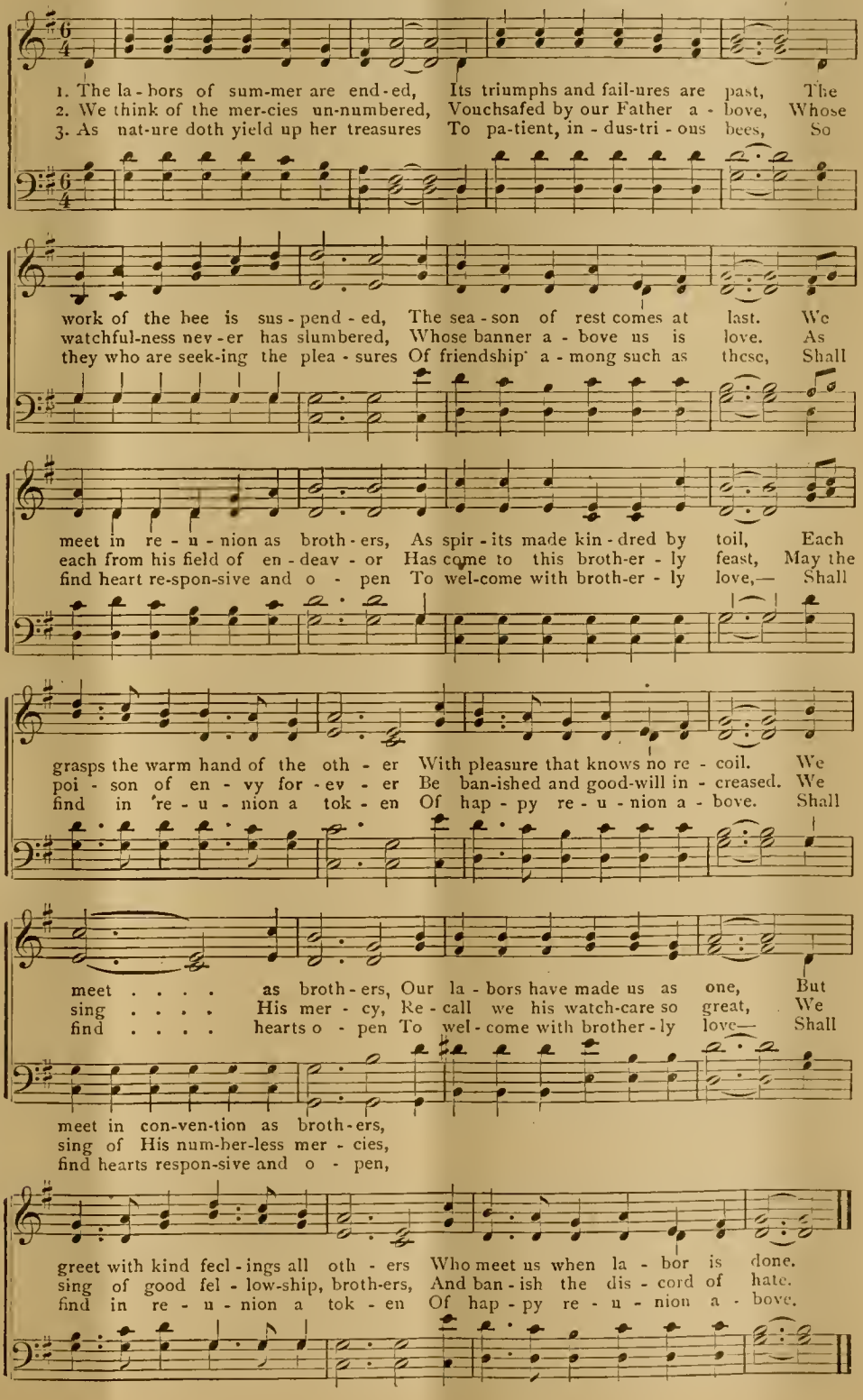
Can You Do Anything that will do more to advance and defend the pursuit of bee-keeping, than to aid its Weekly Exponent and Defender ? The AMERICAN BEE JOURNAL is the pioneer bee-paper of America, and is fully entitled to the active support of every progressive apiarist, for it works constantly and faithfully for the best interests of the pursuit. We therefore specially request all our readers to use their influence to double our subscription list during the coming autumn. Reader, will you please send us a new subscription with your renewal or before that time ? A good weekly at one dollar a year is surely cheap enough to command patronage.

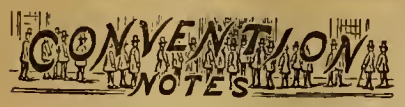
Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

Reunion Song.—Through the kindness of Mr. A. I. Root, in loaning us the plate for this Song, which was composed for the Columbus Convention, we are enabled to present the words and music to our readers. The words are expressive, the air is pleasant, and the whole melodious. Thousands will learn to sing it, and it will be heard at nearly all the conventions hereafter.

BEE KEEPER'S REUNION SONG.

EUGENE SECOR. C. C. MILLER.


1. The la-bors of sum-mer are end-ed, Its triumphs and fail-ures are past, The
2. We think of the mer-cies un-numbered, Vouchsafed by our Father a-bove, Whose
3. As nat-ure doth yield up her treasures To pa-tient, in-dus-tri-ous bees, So
work of the hee is sus-pend-ed, The sea-son of rest comes at last. We
watchful-ness nev-er has slumbered, Whose banner a-bove us is love. As
they who are seek-ing the plea-sures Of friendship a-mong such as these, Shall
meet in re-u-nion as broth-ers, As spir-its made kin-dred by toil, Each
each from his field of en-deav-or Has come to this broth-er-ly feast, May the
find heart re-spon-sive and o-pen To wel-come with broth-er-ly love,— Shall
grasps the warm hand of the oth-er With pleasure that knows no re-coil. We
poi-son of en-vy for-ev-er Be ban-ished and good-will in-creased. We
find in re-u-nion a tok-en Of hap-py re-u-nion a-bove. Shall
meet . . . . as broth-ers, Our la-bors have made us as one, But
sing . . . . His mer-cy, Re-call we his watch-care so great, We
find . . . . hearts o-pen To wel-come with brother-ly love— Shall
meet in con-ven-tion as broth-ers,
sing of His num-ber-less mer-cies,
find hearts respon-sive and o-pen,
greet with kind feel-ings all oth-ers Who meet us when la-bor is done.
sing of good fel-low-ship, broth-ers, And ban-ish the dis-cord of hate.
find in re-u-nion a tok-en Of hap-py re-u-nion a-bove.



INTERNATIONAL.

Report of the North American Bee-Keepers' Convention.

Written for the American Bee Journal
BY W. Z. HUTCHINSON.

SECOND DAY.

AFTERNOON SESSION.

President Mason called the meeting to order at 2 p.m., and the next business in order was the

Election of Officers.

Considerable time was spent in balloting, and the results were as follows:

PRESIDENT—Dr. A. B. Mason, Auburndale, O.

VICE-PRESIDENTS—Thos.G. Newman, Chicago, Ill.
Prof. G. W. Webster, Lake Helen, Fla.
Joseph Nysewander, Des Moines, Iowa.
R. L. Taylor, Lapeer, Mich.
O. L. Hershiser, Jamestown, N. Y.
Martin Emigh, Holbrook, Ont.
Frank A. Eaton, Bluffton, Ohio.
F. Minnick, Bessemer, Wis.

SECRETARY—R. F. Holtermann, Brantford, Ont.

TREASURER—Dr. C. C. Miller, Marengo, Ills.

After the election of officers, the topic announced for discussion was,

Comb Honey—Swarming, etc.

Dr. Miller was called upon, but said that he did not know as he could give anything new upon the subject. Some one asked him if he could tell how to prevent swarming. He replied: "No; I do not know how to prevent swarming. I can prevent increase, but not swarming. Who knows how to prevent swarming?" No answer.

Dr. Besse asked him how he liked contracting the brood-nest.

Dr. Miller—I practiced contraction of the brood-nest—practiced it quite severely, too, at times, but I am not sure that I prefer it. I may yet go back to having the same number of hives in the apiary all the year around.

Dr. Tinker—If we have the brood-chamber too large, it becomes, to a certain extent, a store-chamber. There is more economy and comfort in having the brood in one apartment, and the honey in another. When the first swarm issues I hive it upon the old stand, putting the old hive to one side. As soon as I have time to attend to it, the bees are shaken from the combs of the old colony down in front of the newly-hived swarm. The combs thus deprived of bees are placed over some other colony. By this management there is no increase, and rousing swarms are secured. As the bees hatch out, the cells are filled with honey. A queen-excluding honey-board must be used under the set of combs placed over another colony. When a queen-excluder is used, the bees will not destroy the queen-cells.

In reply to an inquiry, Dr. Tinker said that in hiving swarms he filled frames half full of foundation.

An Acknowledgement from Mr. Cowan.

President Mason reported that Mr. Cowan, upon receipt of the letter informing him of his election as an honorary member, had replied, thanking the Society most cordially through him as its President.

Honey-Dew for Winter-Stores.

In reply to an inquiry as to whether we should use honey-dew for winter stores, Prof. Cook replied that, if it were palatable to the taste, he should consider it safe. He objected most strongly to the use of the term "bug-juice," as applied to honey-dew. Such terms give an unpleasant impression that is prejudicial. He urged all editors to cut out the term whenever it be found in correspondence.

Mr. Thomas G. Newman, by request, gave the following address concerning the work undertaken by the

National Bee-Keepers' Union.

MR. PRESIDENT:—It is a well-known fact—one firmly established in the minds of all, that "in Union there is strength." Of course we cannot approve of any Union to carry ont an illegitimate or unlawful work; bnt a Union to defend our pursuit from the unjust attacks of ignorant or prejudiced persons, is not only desirable, but very necessary to our well-being and general prosperity.

Look for a moment at the object and aim of the Union of the Atlantic States a century ago, and see how the grand design has been carried out even to a grander achievement. See the millions of freemen of to-day, who inhabit this "land of the free and home of the brave," gathered from every land and clime, who are enjoying the blessings of "peace and plenty," entirely free from oppression or tyranny, and increasing in wealth and power—all resulting from a bond of union only a hundred years old.

Then these sparsely inhabited States—thirteen in number—were weak and almost powerless. The Union has made them strong and powerful—it has developed strength! A strength which says to all—both friend and foe—"Hands off;" we are able to defend ourselves, and take care of our rights!"

For this cause, and for this purpose, does the National Bee-Keepers' Union exist! To form a "bond of Union"—to throw a safe-guard around the pursuit as well as its devotees. It does not seek a quarrel, but when one is forced upon any of its members, it sets up a "Rock of Defense" by its very existence and glorious record. *Never yet* has it suffered a defeat in all the trials it has defended before the courts! That, surely, is a record to be proud over—but it is more than that. It is a *warning* to ignorant and jealous enemies to beware how they trifle with the pursuit of apiculture, and to keep their *hands off* the interests of its devotees. It warns them that the bee-keepers, as well as the bees, have a sting, with which to torture their enemies!

The Union not only seeks to obtain decisions from the highest courts of America, but also to have on record these decisions to be quoted as precedents in all the courts of law, and by all the lawyers who practice therein. In the case lately tried in New York, the Judge stated that there were no *precedents* to guide the decision, and hence he ruled adversely to the bees, as did one in Canada, likening an apiary to a pig-sty, or a manure pit.

Now we are beginning to make history—to record decisions—to provide precedents! When "ignorance" assails the bees, and charges them with eating up the clover (as they did in the sheep-bees case), the records and courts decide that the bees are not only innocent of the charge, but that they benefit the pastures by fructifying the flowers, and thus *increase* the product!

When "prejudice" comes into court with the charge that the bees injure the fruit, the decisions say, *No!* Birds and wasps are the depredators, the bees have no means of opening the skin of grape or peach. They only take what is running to waste after the the fruit is punctured by bird or wasp!

When "jealousy" throws a charge into court against the bees, saying that they are a *nuisance* and must be removed, the Judge says, *No.* It has been decided that bee-keeping *per se* is not a nuisance—they may remain!

When "ignorance" complains that the bees "eat up young ducks," as it did at Arkadelphia, common-sense replies most emphatically that the charge is *madness*, and derides the accuser, sarcastically averring that it may as well be charged with eating elephants, or destroying the mountains!

What the Union has done is a guarantee for the future. It may not always triumph over prejudice and envy and ignorance, but it will defend the pursuit, and uphold the right. It

is for bee-keepers to say whether it deserves both their moral and financial support or not. If it does, they should render both in unstinted measure. It is to the interest of all to do so, and the interest of all is the interest of every individual engaged in the pursuit of bee-culture.

As the Union has made the speaker *its servant* (without salary or emoluments), he may speak thus plainly, for he will never require or take any assistance from the Union, except that assistance which comes to every devotee of the pursuit in a general way, by its influence in favor of justice and right!

The Union is yours—support it.

THOMAS G. NEWMAN.

The following resolution was passed by a unanimous vote:

Resolved, That it is the sense of this Society that the National Bee-Keepers' Union has been productive of good, and deserves the hearty, moral and financial support of all bee-keepers, and that the General Manager deserves and receives the hearty gratitude of this Association for his very earnest, efficient and disinterested services.

The convention then adjourned until 7 p.m.

EVENING SESSION.

President Mason had no more than called the meeting to order before he pulled Mr. Root "over the coals" for careless proof-reading. Mr. Root had allowed the words "manufactured stock" to appear in his market quotations. For once the joke, and it was a serious one, too, was on Mr. Root, and everybody had something to say; the talking and laughing over this mishap proved so interesting that considerable time slipped by unheeded. Finally attention was turned to the consideration of the proposed

Constitution and By-Laws for the Society.

This was prepared last year by Mr. Thomas G. Newman, and referred to a committee to report at this meeting.

The committee reported the matter back to the convention without recommendation. Then, with but a very little discussion or consideration, it was voted to adopt the new Constitution and By-Laws, and the North American Bee-Keepers' Society will hereafter be known as the

International American Bee-Association,

with the following Constitution and By-Laws:

ARTICLE I.—*Name.*

This organization shall be known as "The International American Bee-Association," and shall include in its territory all of the United States and Canada.

ARTICLE II.—*Object.*

Its object shall be to promote the general interests of the pursuit of bee-culture throughout the North American Continent; to form a fraternal bond of union for the instruction and protection of its members; to diffuse a general knowledge of the value and uses of honey both for food and medicine; to create a market for this God-given sweet, and to assist in its distribution evenly over the American Continent—and thereby enhancing its commercial value.

ARTICLE III.—*Membership.*

1. This Association shall consist of its officers, life members, annual members, honorary members, delegates from affiliated local associations, and ex-presidents.

2. Any person interested in Apiculture may become a Life Member, upon the payment to the Secretary of the sum of ten dollars, and receiving a majority vote at any annual meeting of this Association.

3. Any person interested in Apiculture may become an Annual Member upon the payment to the Secretary of one dollar, and receiving a majority vote, at any annual meeting. Ladies interested in apiculture may be admitted free upon a majority vote.

4. Annual Members shall be entitled to vote, hold office, and discuss any question before the Association, subject to the By-Laws of the Association.

5. Any persons interested in bee-culture may become Honorary Members by a majority vote at any regular meeting.

6. Delegates from affiliated local Associations shall be admitted free, and have all the rights of annual members.

ARTICLE IV.—*Officers.*

1. The officers of this Association shall consist of a President, First Vice-President, Secretary and Treasurer, and their term of office shall be one year, or until their successors shall be elected and installed. These officers shall constitute the executive committee.

2. The Presidents of all the Local Associations, in affiliation with the International Association, shall be *ex-officio* Vice-Presidents of this Association.

ARTICLE V.—*Affiliation.*

Any State, District, Territory or Province in North America may become affiliated to the "International American Bee-Association" upon the annual payment of five dollars, which shall be due on the first day of January in each year.

ARTICLE VI.—*Meetings.*

The Annual Convention of this Association shall be held at such time and place as shall be agreed upon at the previous Annual Convention. Ten members shall constitute a quorum for the transaction of business, but a less number may engage in discussion, and adjourn until some future day.

ARTICLE VII.—*Special Meetings.*

Special Meetings may be called by the President, Secretary, and Treasurer, who shall constitute the executive committee.

ARTICLE VIII.—*Vacancies in Office.*

Vacancies in office by death, resignation, or otherwise, shall be filled by the President until the next annual meeting.

ARTICLE IX.—*Amendments.*

This Constitution may be amended at any Annual Convention, by a two-thirds vote of all the members in attendance.

BY-LAWS.

ARTICLE I.—The officers of this Association shall be elected by a majority ballot; or, if so decided, by a vote of two-thirds of those present, the officers may be elected by a show of hands.

ART. II.—It shall be the duty of the President to call and preserve order in all meetings of the Association; to call for all reports of officers and standing committees; to put to vote all motions regularly seconded; to decide all questions of order according to the Constitution and By-Laws of the Association, and in accordance with Parliamentary usage; to provide for counting the votes at all elections; and at the expiration of his term of office, to deliver an address before the Association.

ART. III.—It shall be the duty of the First Vice-President (or in his absence one of the other Vice-Presidents), in the absence of the President, to perform the duties of that office.

ART. IV.—It shall be the duty of the Secretary to call the names of the members of the Association at the opening of each annual meeting, and to receive the annual dues; to report all proceedings of the Association, and record the same, when approved, in the Secretary's book; to conduct all correspondence of the Association, and to file and preserve all papers belonging to the same; to take and record the name and address of every person who becomes a member of the Association,

and transfer the moneys received for dues to the Treasurer, after taking his receipt for the same; to make out and publish annually, as far as practicable, a statistical table showing the number of colonies owned in the spring and fall, and the amount of honey and wax produced (together with such other information as may be deemed beneficial) by each member of the Association; and to give notice of all meetings of the Association in all the bee-papers, at least four weeks before the time of such meeting.

ART. V.—It shall be the duty of the Treasurer to receive from the Secretary the funds of the Association, and give a receipt for the same; to pay them out upon the order of the executive committee, and to render a written report of all receipts and expenditures of the Association at each Annual Convention.

ART. VI.—The Secretary shall have power to choose an Assistant-Secretary if deemed necessary.

ART. VII.—The Association shall be mainly governed by the following order of business:

Call to Order.
Calling the Roll of Officers and Members.
Reading the Minutes of the Annual, and Special Meetings, if any.
Reception of New Members and the Collection of Annual Dues.
Secretary's Report.
Treasurer's Report.
Report of Standing Committees.
Reports from Affiliated Societies.
President's Address.
Election of Officers.
Selection of the Time and Place for holding the next Convention.
Miscellaneous Business.
Discussion of Apicultural Topics.
Installation of Officers.
Adjournment.

ART. VIII.—1. A committee of five may be elected, who shall have power to organize itself into a "Honey Company," and its duties shall be to inaugurate plans for the marketing and sale of the products of the apiary. Every member of the International American Bee-Association, and its affiliated branches, shall be entitled to the benefits of the Honey Company, subject to the terms of its By-Laws.

2. This Honey Company shall make Annual Reports of the state of the market, amount of business done, and of its financial condition, to the Annual Convention of the International American Bee-Association.

ART. IX.—1. The Secretary of each local Affiliated Society shall, through its Secretary or President, on the first day of August in each year, report to the Secretary of the International American Bee-Association, the number of its members, stating the aggregate number of colonies of bees in their apiaries in the previous fall, the number in the spring, the increase since, and the approximate number of pounds of honey produced (stating comb and extracted separately), and any other desirable information concerning the probable honey-production of those not members of the Society, but within the territory of the affiliated local association.

2. If the annual Affiliation Fee be not promptly paid, and the Local Report withheld, the "International American Bee-Association" may at any time within one month of the dates mentioned, withdraw the privileges of affiliation, which comprise the following:

(1.) The President of each Affiliated Society is *ex-officio* a Vice-President of the International American Bee-Association.

(2.) It shall be entitled to receive from the International Bee-Association two Silver Medals, to be offered as Prizes for Honey, open for competition to all its members, one for the best in the comb, and the other for the best out of the comb.

(3.) The members of all the Affiliated Societies shall be entitled to the facilities which may be provided from time to time by the Honey Company, for the sale of Honey and Beeswax, upon the terms stated in the By-Laws of the Company.

(4.) Each Affiliated Society shall be entitled to the services of a Judge to award premiums at its Bee and Honey Show, upon the payment of his actual railroad and hotel expenses.

(5.) Each Affiliated Society shall be entitled to elect one Delegate to each 25 of its members, or fraction thereof, who may represent it at the Annual Convention of the International American Bee-Association—all expenses of such Delegates to be borne by themselves or the local society, or both conjointly, as they may provide. Such Delegates shall be entitled to vote, hold office, and take part in all the deliberations of the International Bee-Association.

ART. X.—A Defense Committee of seven shall be appointed for the purpose of considering the applications of members for Defense from unjust lawsuits by those who are prejudiced against the pursuit. This committee shall be the officers annually elected by the National Bee-Keepers' Union, which is hereby declared to be affiliated to the International American Bee-Association. Its President is hereby made a Vice-President of this Association, and its General Manager also a delegate to the International Convention.

ART. XI.—An Expert Committee of three shall be annually elected and fully empowered to prepare Examination Blanks, and make all necessary arrangements for the examination of candidates for Diplomas as Experts in the art of bee-keeping. This committee shall be empowered in the name of this Association, to award Diplomas of three grades upon candidates, according to their proficiency in the art of bee-keeping, and the management of an apiary.

ART. XII.—1. The Executive Committee of this Association shall cause the Constitution and By-Laws to be printed in appropriate form, and every person joining the Association shall be entitled to a copy of the same.

2. It shall also select subjects for discussion, and appoint members to deliver addresses or read essays, and the same shall be published with the call for the next Annual Meeting.

3. It shall also provide free Badges for all members, and procure Medals for the Honey Shows of Affiliated Associations, and Diplomas for experts.

4. The Executive Committee shall also provide a place of meeting for the Annual Convention, and see that all necessary arrangements are made to carry out the demands of the Constitution and By-Laws.

ART. XIII.—No member shall be entitled to the floor more than five minutes in the discussion of any motion, resolution or petition, without obtaining the consent of the Association, nor a second time, unless by the consent of the President, or a majority of the members present.

ART. XIV.—All Committees shall be elected by ballot, by a plurality vote, except by special resolution.

ART. XV.—These By-Laws may be amended by a two-thirds vote of all the members present at any annual meeting of the Association.

The next and last topic discussed was,

The Wintering of Bees.

Dr. Miller—Most of the points have been touched upon. The bees must have good food, must be brought into the cellar early in the fall; the temperature kept at from 40° to 45°; not to be taken out too soon. I believe this covers most of the ground.

Dr. Tinker—In the early part of the winter I think that a temperature of 41° is better than 45° for the cellar. If anything breaks up the hibernation, and sets the bees to eating, it is injurious; and it makes no difference, so far as results are concerned, whether they eat honey or pollen. After February the temperature should be higher.

Vice-President R. F. Holtermann, of Brantford, gave this report for Ontario :

The past winter was passed fairly well by the bees. Spring dwindling was excessive, owing to severe weather, The clover yield was a total failure in most localities, linden the same, and at its close showers and warm weather gave us some thistle honey in buckwheat localities; the fall flow was fairly good. On an average not sufficient honey has been secured for winter, yet colonies are otherwise in good condition. Whilst the average is so low, we hear of isolated cases where a yield of 30 to 40 and even 60 pounds per colony has been obtained; and, on the other hand, colonies had to be fed in the height of the honey season.

Increase has been but slight, and all colonies remaining should be carefully preserved and cared for. There has been practically no comb honey taken, and the extracted honey will be off the market before the end of the present month. R. F. HOLTERMANN.

BRANTFORD, Ont., Oct. 1, 1888.

It was voted that Thomas G. Newman & Son publish in pamphlet form the report of the proceedings, and mail copies to each member of the Association, and that they be paid $20 for the work.

It was also voted that the Secretary be paid the balance ($7) in the treasury for his services.

The following resolution was passed by a unanimous vote :

Resolved, That we extend our thanks to the Hon. Fred Blenkner, Third Assistant Sergeant-at-Arms of the House of Representatives, and through him to the House of Representatives, for the free use of the Hall of the House for holding this convention.

The convention then adjourned to meet in social intercourse during the next day, at the Bee and Honey Hall on the Centennial Grounds; and the next meeting will be held at the call of the executive committee, at Brantford, Ont.

W. Z. HUTCHINSON, *Sec.*

Convention Notices.

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee-keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The next regular meeting of the Stark Co. Bee-Keepers' Society will be held in Grange Hall at Canton, Ohio, on Saturday, Nov. 3, 1888, at 10 a.m. Matters of importance to bee-culture will be discussed. Every bee-keeper is requested to be there. MARK THOMSON, *Sec.*

☞ The Alabama State Bee-Keepers' Association will meet at 10 a.m. on Wednesday, Nov. 14, 1888, at the office of the Secretary of the State Fair (in the Fair Building), in Montgomery, Ala. Members are urged to attend, and all persons interested in bees and honey are cordially invited.

J. M. JENKINS, *Sec.*

CORRESPONDENCE.

REPORT FOR 1888.

Results in the Apiary for the Past Season.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

My bees wintered fairly well during the winter of 1887–88, my loss being only 3 colonies out of 60—two dying out of those wintered out-doors, and one out of those wintered in the cellar. The winter was very severe, and there was only one day warm enough for the bees to fly between Nov. 1, 1887, and April 26, 1888, that being on March 27. Had that day in March not occurred, my loss would have been very heavy among those wintered on the summer stands, for previous to this they were getting very uneasy.

Those from the cellar which were put out on April 27 and 28, were very quiet, and could apparently have endured another month of confinement, without serious results. With April 26 came extremely warm weather for the time of year, the mercury standing near the nineties for three or four days in succession.

About the middle of May it came off cold, so that frost and snow were the order of the day for nearly two weeks, and as this bad weather came before any brood to any extent had hatched in those put out from the cellar, these colonies "spring dwindled" to an extent greater than was ever known to me. In front of some of the colonies the alighting-board and ground were covered with dead bees, the most of which were those that had come through the winter; while the bottom-boards to the hives were covered with young bees which did not seem to have vitality enough to exist without their older sisters. From this source I lost two other colonies, while several more were so materially weakened that they were good for little else save using for nuclei later on in the season. Others no better in any way before the freezing weather than were those which dwindled, held right on during the same time, scarcely losing a bee, and came out splendid colonies.

Here, again, I am out at open sea, for the experience of the past spring has taken all of the conceit out of me, and I candidly confess that I do not know what causes "spring dwindling;" for all that dwindled, and those which did not dwindle, were wintered exactly alike, and were as near "alike as two peas," as far as I could see. Not a colony of those wintered out-doors seemed to suffer a bit from the effect of this disease, if disease it be.

The hard maple gave the bees plenty of pollen, and the willows furnished considerable honey, so that brood-rearing went on fairly well the latter part of May. Apple trees blossomed on June 1, but owing to cold weather, which now came again, no honey was obtained from this source. On the nights of June 1, 2, 3 and 6, ice formed on the tin roofs of the bee-hive covers, so as to stand up like brass buttons, and again brood-rearing came to a stand still, and all colonies which had drones hatched, killed them off, unless the hive was well stocked with honey.

Clover opened about June 20, but with the exception of the Alsike variety, it did not yield any honey, and as but little of that variety is grown here, nothing more than a living was obtained from that source. Locust gave a little honey also, while some was obtained from sumach, but from none of these sources did the bees get enough to commence work in the sections, except a few of the strongest ones.

Very few swarms issued, only about one third of the colonies casting swarms, which was the lightest swarming I ever knew. Basswood opened on July 8, but the bees did not seem to get more than a living till July 13, when the honey began to come in quite lively. The yield of honey was fairly good from that date for nearly two weeks, when it drew to a close, gradually, the bees following the bloom to the tops of the hills five to seven miles away.

Teasel yielded very little honey this year, although now and then a bee would be seen coming in, covered with teasel dust, all through the basswood yield. As usual buckwheat gave no surplus honey, and as this plant has failed to yield any honey for so long a time, I have got through counting on it for any surplus.

By sales of bees and queens my stock was reduced to just 17 queens of the original number with which I went into winter quarters, and as I used all of the colonies from which I took queens to form my numerous queen-rearing colonies, 17 colonies and the few increase from them was all I worked for comb honey.

The result in honey from the 17 colonies in the spring, is 1,233 pounds, all of which is comb honey, as I have not extracted a pound of honey this season. This gives an average of 72½ pounds of honey for each old colony, spring count, which was worked for honey.

On Aug. 1, I began getting the brood out of the various nuclei, leaving only enough in each to keep them along,

so that when I got through with them I should have little left in each hive save the combs. This brood was given to the stronger nuclei, which together with brood taken from the colonies which did not swarm, was used to build up colonies for winter, so that I now have 60 colonies again for winter.

All of the colonies worked for honey have an abundance for winter, after an equalization of the whole, but the united brood and colonies which were built up in that way had to be fed in order that they might winter without danger from starvation. As my average yield of honey during the past 14 years has been not far from 80 pounds per colony, it will be seen that this year has been about an average season for honey in this part of New York State.

Borodino, N. Y., Oct. 1, 1888.

EXPERIMENTS

In the Prevention of Natural Swarming, etc.

Written for the American Bee Journal

BY W. M. WOODWARD.

I was deeply interested in the experiments of Mr. C. H. Dibbern, on page 612, on the

Prevention of Swarming.

I had been going over the same ground, and will give the experiments and results :

I had a strain of Albino bees and hybrids, which would swarm every six weeks, both old and young queens, and I was, after three seasons, becoming anxious for some way to control them. I caught at the Simmins' "non-swarming" idea as a possible way out of the trouble. It seemed to me feasible, and the only way that I conceived worthy of further trial, for they would build cells as long as they had anything to build with, and I had tried every way in former years without success. I therefore set myself about testing what this heralded plan would do.

I prepared 10 colonies as follows : Two colonies on nine 7-inch frames were given an extra set of combs beneath, about ten days before swarming began. Two more were fitted up the same with starters only. Also six extra Langstroth hives (with 9 frames) were fitted up with clean combs, and two placed beneath and four above, one each way on strong colonies of black bees, and two each way on hybrids.

This I thought would give the plan a fair test. The results were as follows : My first swarm was from a 7-inch frame hive, single tier ; the second from one with an extra set of starters below. The other one with starters remained sometime longer, but swarmed without building any comb to speak of.

The 2 colonies fitted with an extra set of 7-inch combs below performed as follows : One swarmed early, I think the third or fourth swarm, without apparently occupying the extra hive at all. The other swarmed and went back ; and, as the queen had used but the upper or original hive for brood, I now changed them, putting the brood below, and they remained.

The two Langstroth hives given to the black bees, one above and the other below, both proved effectual. *But*—only one black colony out of 14 or 15 swarmed until very late, long after these experiments had closed. The 4 hybrid colonies fitted with Langstroth hives, one above and the others below, all swarmed ; but one, after going back the third time, remained ; and one other was changed from below and put above, at the beginning of the honey-flow from corn, about July 20, and swarmed when the extra hive was nearly filled for extracting. I have no doubt this last would have proved successful had I not removed a case of sections from between the two hives when they needed it ; but although they had made a start in theirs, the rest had done nothing, and I thought they would only black their combs, and so I took it off. They swarmed in three or four days afterward.

One conclusion which I arrived at was this : That bees could not be induced to build comb below, to any extent, after they had ceased to build once in their hive. I tried the same experiment later on with swarms, by putting an extra hive with foundation or starters beneath, and in no instance did I succeed in getting another set of combs built, or even drawn out. I found it necessary to change them to the top, when they were built and filled with honey.

Another conclusion at which I arrived was, that the extra hive is always better *above* than *below* the brood. It seems to prevent swarming better, and also prevents the combs from being loaded with bee-bread.

Still another conclusion was, that about 9 Langstroth frames gives the most prolific queens that I have all the room for brood that they want. Only one of all these queens occupied the second story, and when she swarmed, I overhauled the hive and placed the fullest frames of brood in one hive, and two were given to a weak colony. Yet I judged that the brood could as well all have been placed in nine full frames.

In a word, the Simmins' non-swarming method has proven a great hoax. Still I think that I have a "leader" in the right direction. I was able, by the use of an extra tier of drawn combs, to hold off swarming. I believe that swarming can be prevented. If so, it will be by working colonies just as for extracted honey, until well started ; and working, by the tiering-up plan, into comb honey at the time of raising the upper story.

The only way I was able to prevent increase was, by breaking up every colony that swarmed, giving all of the bees to the swarm, and using the brood where it could be disposed of to the best advantage. By this means I succeeded in keeping the bees together strong enough to gather the fall crop of honey.

Value of Comb Foundation.

I have heretofore written very strongly in favor of full sheets of comb foundation in the brood-nest. I still use it as a general rule ; but with the above bees it has only aggravated this disposition to swarm, as they positively will not do anything outside the brood-nest if they can crowd in there.

I have found that I could keep them together about two weeks longer by using narrow starters only. I never was able to get any comb honey from them, except by sheer compulsion. I have hived them for 24 hours, or even more, in the cases only, and then raised them upon a hive ; yet they quickly found the place for their home, and this did no good. A few sections perhaps were started, but the rest of their honey went below. They must have positive contraction to the space actually full of brood.

Crowding Frames Together.

I have tried Mr. Pond's plan of crowding frames together, somewhat extensively for the purpose of preventing the hive from becoming choked up with honey. The only advantage I ever gained by it was, that the breeding depth was retained, but it was filled with honey just the same. Taken alone, it was a total failure ; but in conjunction with reversible frames of a shallow type, it was a success. The frames should not be deeper than 7 or 7½ inches—surely not more than 8 inches for this purpose.

The same result can be gained with the hanging frame, when placed close by taking the side of a knife and bruising the cappings thoroughly. This will cause the bees to remove the honey in order to repair the combs, when the queen will occupy the combs with brood. I have met with my most perfect success in producing comb honey by the latter process—a gain of

not less than 40 per cent. over any other colony at the time of trial; but it involves double the work.

On the whole, shallow reversible frames promise to be far the best, and I believe that we have not yet half learned to appreciate the reversible frame.

Custer Park, Ills.

WINTERING BEES.

Preparing the Bees for their Long Confinement.

Written for the American Bee Journal

BY REV. STEPHEN ROESE.

The BEE JOURNAL makes its weekly visits with great accuracy, and comes richly laden with its precious contents of valuable instruction and advice, from the bee-keeping fraternity from Maine to California, cultivating, like an electric current, a feeling of sympathy and good-will toward all who love this honest industry and art.

But the summer is now ended, the harvest is past, and the time is now at hand for bee-keepers to be preparing their bees for winter, which is a matter of great importance; for in fall management and winter care lie the bee-keeper's success for the coming season. Bees that winter well in a dry cellar or bee-house with 35°, and not over 40°, of temperature, will come out healthy and strong in the spring, and beginners (and older ones not excepted) in the pleasant and profitable occupation should be very careful, and not allow one colony of bees to go into winter quarters with less than 35 pounds of sealed honey; and to be sure that each hive is placed on the scales, and not guessed at.

September is the best month and time for this preparation, to examine and find out the conditions of each colony. Later, when frosts have injured the honey-flow, and bee-pasture is scarce; where bees will be troublesome and annoy both bees and bee-keeper—while this work of examination and preparation for winter is going on, and often causes a general demoralization of the whole apiary, not a hive should be opened unnecessarily, or left open by neglect; for if one bee is allowed to enter a strange hive, or get a taste of honey not its own, in a short time robbing at wholesale will be the order of the day, and the strongest colonies cannot resist it; and with what fury and terror this warfare is carried on, many bee-keepers, without doubt, have witnessed and experienced!

One who has read of, or has been an eye-witness of the great Battle of the Wilderness, will be able to form a faint idea of the terrific warfare, when bees have begun robbing in good earnest. I have often wished, on such occasions, that I had never seen a bee.

Preparing the Bees for Winter.

The way I prepare my bees for winter is as follows: I begin early during the extracting season. When shaving off the cappings from the cells that are sealed over, I punch a hole through the frame in the center, 2 inches from the top-bar, for a winter passage, and put away at the same time the best frames of straight combs all sealed over, placing them in vacant Simplicity hives, 2 inches apart, for further use in winter preparations. On finding a colony with frames nearly empty, I take one or more without brood and replace them with full ones set aside for this purpose; and if the colony is strong, I take from it one or two combs with brood, and give them to weak ones, thus making them all equally strong, or as nearly so as I can. But I make it a point to do this work with great despatch, having everything ready and on hand; the smoker filled with dry, rotten elm wood, and also the honey-knife, if needed to cut bits of brace-comb on the outside frames and side-wall of the hive; and also a small chisel or old file to pry loose the frames, if need be. In less than three minutes the work of examination and preparation is completed.

My next work is to contract the hive-entrance according to the strength of the colony, and guard the same closely for several days, until all danger of robbing is over. The partly empty combs thus taken out, I extract, placing them in a Simplicity hive; and toward evening I put the same on a hive of bees having no upper story; during the night the bees will take every particle of honey out and carry it down, and in the morning the combs will be all dry and clean, ready to put away for winter.

I use no enameled sheet for winter covers on the frames; burlap is my favorite cover for winter, or binder twine is still better.

Watching the weather closely, I store all my bees away for winter just before the first hard freezing—before the combs get frosty; after arranging them all in tiers, one above the other, but so as not to rest the upper tier on the lower, taking the cover off from each hive. I spread on the burlap cover, 3 inches of sawdust, which will answer a three-fold object, viz: 1. It will keep the bees warm. 2. It will keep them dry, and absorb the moisture. 3. It will admit air, as it is porous.

The hive-entrance I regulate according to the strength of the colony, and in two weeks I go into the bee-house to see if the entrances are clogged up with dead bees. If so, I have a hook of strong wire, and reach gently into the hive and draw the dead bees out.

If the mercury is at zero, I stop up the ventilator with a bag filled with sawdust, for this purpose, and take the same out when the atmosphere is milder. With this care my bees wintered remarkably well last winter; they came out strong, and I lost, of all I put out in the spring, only 3 colonies by spring dwindling. During the cold weather in May I heated bricks, and placed them, during a cold night, above the frames, to prevent the young brood being chilled, and I shall do likewise in the future.

Improvements in Bee-Keeping.

I think that every intelligent bee-keeper ought to be thankful for modern improvements in bee-keeping, and the light which has dawned upon the times and age in which we live; for since the introduction of the movable comb-frame, by the venerable Father Langstroth, and the Simplicity hive by Mr. A. I. Root, bee-keeping is no longer a task to be dreaded; but it is now a work that is pleasant, easy, entertaining and profitable, and, what is more—honorable. In spite of the "Wiley lie," which was wilfully intended to cast a gloom and dark shadow over so honest a pursuit, in which many intelligent men and women are engaged, the art of bee-keeping is still progressing, prospering and developing more.

Only a fiend and villain could do as Wiley did, wounding the feelings of over 300,000 bee-keepers in this country, and many more in the Old World; and then trying to smooth it over, calling his wicked act a harmless "pleasantry," and complaining that bee-keepers are continually "picking" at him. He may, conscience smitten, take home the truth that he deserves, and he has not heard the last of it yet, for with all his education, wisdom and scientific knowledge, he leaves unclaimed the standing offer of $1,000 reward offered by a noble defender of this honest enterprise. In this section of country the "Wiley lie" has taken no strong foothold—only once in a while a traveling salesman will tell the merchants what he has seen in the papers, that bee-keepers manufacture comb, honey, and all, without the aid of the bees.

In closing I will say that we are truly living in an age of wonders, considering the progress of science and art during the last 50 years; and since the days of Herr von Berlepsh and his

associates in Germany, the art of bee-keeping has been wonderfully developing, and every candid reader will agree with the "good book," that in the latter days many shall run to and fro, and knowledge shall be increased, and the wise shall understand.

Maiden Rock, Wis.

FLOWER COLORS.

Are Bees Attracted by the Colors of Flowers?

Written for the American Bee Journal

BY MRS. MAHALA B. CHADDOCK.

Among the many good and interesting things in Mr. L. H. Pammel's article on page 633, on "The Pollination and Perforation of Flowers," there is a wrong idea put forth. He takes it from Muller, but also seems to adopt it as his belief. It is in regard to the changes in color of flowers of closely related species. After quoting from Muller, and giving examples of some of the species that show the color-range, he says:

"Slight changes of color must therefore be of great use to an insect; just as changes in color of parts of a flower after pollination are of use to the insect by indicating that its services are no longer needed."

Color is no guide for the insect world. They visit flowers for the nectar and pollen which they contain—not for the good of the flower; and if color is of no account at any time, how can a change in the color of a part of a flower tell an insect that its services are no longer needed?

Bees and other insects work by instinct, and all their labor is for the good of their own kind; they know nothing about "pollination," and a change in the parts of all the flowers in the universe would tell them nothing. Insects cannot reason. If they could, they might alight on a flower, and, if the inside of the petals had turned dark, say, "This flower has already been pollenized. I know by this dark stripe, so I'll not go in, but will go to other flowers where no change in the color has taken place, and then I'll do the work that was intended for me to do. It matters not that I have a thousand empty mouths at home, waiting to be fed. I'm around just now pollenizing flowers, and the babies at home will have to wait until I find a flower that needs me."

But we all know that insects do not reason, but go by an instinct that makes them seize everything that will contribute to their own prosperity. That in working for their own good the insects do unconsciously pollenize flowers, is true; but that they are conscious of what they do, can never be admitted, unless we admit that they are endowed with reason.

There never was a wilder notion than that bright-colored flowers attract insects. One of my neighbors has masses of zinnias, two long rows reaching from the house down to the road; and as I walk among them I look out for bees. Not a bee is to be seen; but up near the house is an insignificant little bunch of mignonette, with half a dozen bees at work on it. Bees and other insects are attracted by the *scent* of flowers, not by the *color*. Here is the ☞

Vermont, Ills.

AUTUMN.

Hints About Fall Work in the Apiary.

Written for the Western Plowman

BY C. H. DIBBERN.

As predicted last month, the fall yield of honey has been very fair, and the quality is unusually good. I have never before seen such white honey prodnced so late in the season. Bee-keepers are now in much better condition than a year ago. Then there were hives that contained not a single pound of honey, and the only thing to do to save the bees, was to buy sugar and make it into syrup and feed them. This required money, work and patience. Now all is changed. The bees are well supplied with honey, in fact many have too much, and some extracting from the brood-chambers will have to be done. Bee-men can keep their money in their pockets, if they have any, and perhaps add to it considerably from sales of honey.

Preparing Honey for Market.

October is usually a busy month, as all the work of removing surplus arrangements, and putting the bees in the best possible condition for winter, should be done now before the weather gets too cold. Then the honey has to to be prepared for market. Cases for shipping have to be made, and if any are on hand from previous years, they should be taken apart, and planed so all will look nice and inviting. We should always remember that we cannot have anything too neat about honey—the bees themselves set us a very good example, when they put nectar into snow white waxen cells. Perhaps from this has come the old saying, "Neat as wax."

To the bee-keepers that have honey to sell I want to say a word or two. Of course you want to get the most money you can out of the crop, which is a very short one at best. If your honey is nice and white, or dark and yellow, be sure and scrape every section clean of propolis, and pack in neat shipping-cases, with clean glass on at least one side. Your name should be on the case, with the kind of honey, weights, etc.

Now do not put nice white comb next to the glass, and dark, poor stuff hid away back of them, as your customers will certainly find it out, and perhaps not buy any more from you. There is no use to try to sell a thing for what it is not, to say nothing of the dishonesty. Some people would call that smart, but such practice will soon be found out, and the man be marked as one to be avoided. It is all well enough to put nice combs next to the glass, but the balance of the case must grade nearly the same.

If you have dark honey, put that into cases by itself, and sell for a few cents less, for just what it is. We are making three grades of onrs this year: choice white, heart's-ease and buckwheat, which we expect to sell at a difference of 5 cents per pound between the poorest and best. I have noticed in previous years that some bee-keepers bring in their honey in the cases just as they come off the hives, with the sections all stuck fast, and the propolis still sticking to them, without bottoms, so that every particle of honey leaking out will run on the counter, where it attracts flies, and very often the neighboring bees. I have seen grocers literally driven out of their stores in this way. Is it any wonder that after such experience some grocers will not bother with honey?

Our cases are close fitting, with glass on one side, and a cover that fits perfectly. Before the sections are put in, a neat fitting pan, made of stout wrapping paper, is placed in the bottom to catch and hold every particle of honey that may leak out. Honey in such shape can be handled as easily as sugar. Do not be in too great a hurry to sell. Honey this year should bring 15 to 20 cents per pound for comb, and 10 to 15 cents for extracted.

Honey of Different Colors.

We have noticed one thing this year that struck us as rather odd. Some cases contained as nice white honey as any white clover, while perhaps the very next hive would contain sections stored at the very same time, that were quite dark. This at first puzzled us, but after thinking over the matter, we concluded that bees from certain hives work on one kind of blossoms, while others work on a different kind. I also

noticed that only one kind was usually in a case.

Value of Honey-Plants.

Our honey-plants, with which we have been experimenting, are now done blooming, and we can now form some idea of their value. We are well satisfied with the outcome of our four acres of sweet clover. It kept the bees busy for about a month at a time when there was almost nothing else for them. It is true they did not gather honey fast, but it kept up brood-rearing, and the bees more than held their own, and when the fall blooms came they were ready for it, and how they did work!

The Chapman honey-plant commenced blooming about the same time as sweet clover, and went out of bloom a little sooner. It is undoubtedly very rich in honey, as the bees were on it constantly. Still I do not think it will ever be very extensively cultivated by bee-men, as it requires too much attention the first year. Then, too, it is known to have several enemies that may play sad havoc with it in the future. Others will regard it with disfavor, as it looks so much like thistles. Cattle will not touch it, and on this account we believe it will be valuable to scatter in waste places, about old stone quarries, etc., where other plants could not exist.

Some years ago I got some of Dr. Tinker's golden honey-plant seeds and scattered it far and wide. Now they are growing in many places, and bid fair to add another important source of honey to our field.

We shall save all the seeds this fall that we can use, and send for several other varieties, and do all possible to improve our honey resources. We shall also do what we can to induce farmers to sow Alsike clover.

Brood-Chambers Full of Honey.

In many sections of the West, brood-chambers of hives will be found clogged with honey. Especially is this the case with large hives, or where surplus arrangements are defective. A colony does not need over 40 or 50 pounds of good honey to winter nicely. In fact more is a detriment to them, as they cannot cluster and pack in the combs, on the approach of cold weather, and on this account many bees will become chilled, and lost between cold, solid combs.

A very good plan is to take out the side combs which are usually solid with honey, and extract them, and return empty combs to near the center of hives. It is best to do this before the weather gets too cold, as the bees are then harder to handle, and the honey is more difficult to throw out of the combs.

Brush for Removing Bees.

A brush of some kind is necessary to brush the bees off the combs. We have found nothing better for this purpose than a handful of the stems of any suitable green grass, made into a small wisp broom. Bees do not seem to mind being swept off with grass in a green state, but would become furious if a hair or feather was used. In opening hives and handling combs at this time of year, a good deal of caution is necessary to prevent robbing. Use entrance-blocks where hives have been opened, and do not let bees have access to honey anywhere. Do not put extracted honey into old whisky barrels, on economic grounds, as the honey will be spoiled.

Milan, Ills.

CONVENTION DIRECTORY.

1888	*Time and Place of Meeting.*
Nov. 3.	Stark County, at Canton, Ohio. Mark Thomson, Sec., Canton, O.
Nov. 14.	Alabama State, at Montgomery, Ala. J. M. Jenkins, Wetumpka, Ala.
Nov. 21, 22.	Pan-Handle, at Wheeling, W. Va. W. L. Kinsey, Sec, Blaine, O.
Dec. —.	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Snow.—Mr. S. F. Reed, North Dorchester, N. H., on Oct. 9, 1888, writes:

It is snowing hard here to-day. There are nearly 6 inches of snow on the ground now. A heavy frost killed all vegetation about Sept. 5th or 6th.

The Season of 1888.—Mr. Leslie Stewart, Jefferson, N. Y., on Oct. 15, 1888, writes as follows:

The honey season of 1888 is over, and the bees will now be quiet until the budding spring arrives, when it is hoped that a good season will be in store for us. Certainly we ought to have one then, if we stand the past two poor seasons without flinching. We have now had two very discouraging seasons—in 1887 there was a very short crop, and the crop of 1888 is yet smaller; still we must not complain, for will not this clear our markets of all old and second-class honey, and give a clear market for 1889?

Let us again prepare for the coming season, with light hearts and high hopes. Let us get out a better lot of hives and crates than ever. Let us see that our bees have first-class stores on which to winter. If they are to be wintered out-doors, let us pack them carefully; if in the cellar, let us see that it is clean, dry and warm. We cannot be too particular about such things, and you know we are rather inclined to be a little careless at such times.

To be sure the season has been a poor one, and the honey crop was small. The prices are not as high as we might expect, yet the demand is good, and we will probably have a great abundance to winter the bees on; and some of us have quite a nice lot to spare, which will go a good ways to pay our actual expenses. My crop for the season is about as follows: Basswood, raspberry and white clover extracted, 45 pounds per colony, and of buckwheat, 65 pounds per colony. Comb honey, 20 pounds per colony; of buckwheat, 50 pounds per colony. While there is not a large yield, yet I am satisfied, and feel sure that it is better than the most of us have done; but it has cost me and my Italians a great deal of hard labor, to say nothing of the expenses.

It has been the poorest season for the rearing of queens ever known to me. I was obliged to have very strong nuclei, and sometimes the cells would become chilled, and the young queens would not hatch out; yet I succeeded in rearing some of the finest queens that I ever saw, when the weather was favorable.

Fall Crop in Georgia.—W. H. Prior, Madison, Ga., on Oct. 10, 1888, writes as follows:

My bees have been gathering honey nicely for the past ten days, there being quite a good flow of honey from the fall flowers, especially from the golden-rod, which is very abundant in this section, and is still in full bloom. Frost generally occurs with us from Oct. 15 to the 20th.

Results of the Season.—J. M. Jacobs, DeWitt, Iowa, on Oct. 17, 1888, says:

I started last spring with 20 colonies of Italian bees, increased them to 45 colonies, and have taken 1,000 pounds of fine fall honey. I sold 500 pounds for 18 cents per pound, in one-pound sections. I produce comb honey, extracting unfilled and uncapped sections. I winter my bees in the cellar, darkened, with the temperature at 40° to 45° above zero. I have the bottom-boards loose, and change them during the winter, so as to remove dead bees and mold, if there should be any. I have been very successful so far. I have a market for 50,000 pounds of honey in one-pound sections.

Bee-Keeping in Nebraska.—Mr. Wm. Stolley, Grand Island, Nebr., on Oct. 13, 1888, writes:

My 30 colonies of bees wintered well in the winter of 1887-88; but owing to my absence from home (in June, July and part of August), and other causes, but 20 colonies were in a condition to gather any surplus when I returned. From them I took 62 pounds of comb honey, and 1,348 pounds of extracted. I had but one colony to produce comb honey in one-pound sections. My system of management is such that I so far have successfully controlled increase to suit myself. This season I have only kept up the number of colonies I had in the spring, and they are all strong, and in good condition now, except 2 colonies that are rather weak in numbers.

My bees have, on an average, 25 pounds of honey for winter stores, and I have 100 well-filled and sealed combs besides, reserved for spring stimulation and feeding. I have superseded all queens over 2 years old, and have now nine queens reared in 1887, and 21 queens reared during this summer. It was owing mostly to old queens that 10 of my colonies became deranged during this summer. All of my bees are in their winter quarters, and well packed now. It is the melilot and alfalfa which, for the last three years, have enabled me to render a good account from central Nebraska.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Hilton's new pamphlet on Comb Honey Production has been reduced in price to 5 cents. For sale at this office.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must be sent by express.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 120 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

The Convention.—The pamphlet containing the report of the proceedings of the Union Convention in Chicago, Ills., is published, and can be obtained at this office for 25 cents. Or bound up with the history of the International Society, and a full report of the Detroit and Indianapolis conventions, for 50 cents, postpaid.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Sweet, or Melilot, Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Exchange.—We will accept Honey and Beeswax in exchange for Bee-Keepers' Supplies in any quantity. Those desiring to make a trade are invited to correspond with us, stating quantity, quality, and price, and the goods they want in exchange.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine. Such will create a demand in any locality remunerative prices. See list on the second page of this paper.

A Modern BEE-FARM, and its Economic Management; showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. By S. Simmins. For sale at this office. Price, $1, postpaid.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c.
Sep. 12. R. A. BURNETT, 161 South Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 17@18c.; 2-lbs, 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8¼c.; buckwheat, 5½@6½b.; California extracted, white sage, 7½@7¾c.; amber, 7¼@7½. Demand good and prices firm. New comb honey is arriving quite freely.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Oct. 10. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 11@12½c.; 2-lbs., 12½@1 c.; amber, 8@10c. Extracted, white, 5¾@6c.; light amber, 5¼@5½c.; amber and candied, 4¾@5c. Receipts light and market firm for best qualities.
BEESWAX.—Dull at 19@22½c.
Sep. 22. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white comb, 17@18c.; dark, 16c.—Extracted, 8@10c. Market bare of all kinds.
BEESWAX.—21@22c.
Sep. 24. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 4½@8c. per lb. Comb honey, 12@16c. Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Sep. 18. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.
BEESWAX.—None in market.
Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c.; light amber, in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.
Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON.

HONEY.—We quote: Best white clover 1-pounds, 16@17c.; best 2-lbs., 15@16c. Extracted, 8c.
BEESWAX.—25 cts. per lb.
Oct. 10. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs. 17@18c.; dark, 14@15c.; California white 1-lbs., 17c.; dark, 14c. Extracted white 8c.; amber, 7c.
BEESWAX.—None in the market.
Oct. 11. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted, 4½@5½c.; if in cans, 8@9c. White clover comb, 14@15c. Market is steady and receipts light.
BEESWAX.—21c. for prime.
Sep. 6. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6 cents; light amber, 5¾c.; amber, 5¼@5½c. Comb, 1-lbs. 13@14c.; 2-lbs., 10@13c.
BEESWAX.—20@22c.
Sep. 24. SCHACHT & LEMCKE, 122-124 Davis St.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Oct. 31, 1888. No. 44.

EDITORIAL BUZZINGS.

How doth the little busy bee,
Delight to bark and bite;
It gathers honey all the day
And eats it up at night.

You never hear the bee complain,
Nor hear it weep nor wail;
But if it wish it can unfold
A very painful tail.

The Palmetto Honey of Florida, exhibited at the Columbus, Ohio, Convention, was nearly as palatable as our white clover honey, and Mr. Detwiler wants us to call it by its proper name, and not class it with Southern honey generally. There can be no objection to doing so, and certainly there would be *justice* in it. Let it be known as Palmetto Honey, by all means.

The Canadian Honey-Producer for November is on our desk. It was the first of the monthlies to put in an appearance, and has a fair report of the Columbus convention. Bro. Holtermann is a wide-awake and energetic worker, and deserves great success. He is a *rising* young man, and some day we hope to announce that he is elected President of the International Bee-Association. He is a "worker-bee" in "the hive of Nature."

Mr. Ivar S. Young writes this to the *British Bee Journal* from Christiania, Norway, on Sept. 28, 1888:

In Norway, last winter was quite serious to us bee-keepers. I suppose that about three-fourths of all the colonies died of cold and hunger, and this summer has only very little bettered us, because the honey-harvest with us in Norway, as well as in England and America, has been scarce nearly everywhere. However, we will not therefore lose heart, but hope for better luck next year.

All in a Row.—At the Columbus convention, after the adjournment, while listening to the songs of the "Glee Club," brother Hutchinson called attention to the fact that if a cannon-ball should strike Brother Root and cross the line of chairs, it would wipe out five or six editors of bee-periodicals—they having unconsciously placed themselves in that position, so as to be near one another and have a "friendly chat" between the songs. We heartily endorse the sentiment of the following concerning it, copied from the last *Gleanings:*

Quite by accident, the editors of the representative bee-papers sat in a line so straight, indeed, that, if a cannon-ball had been fired along that line it would have swept them all down. It was Mr. Hutchinson, we believe, who first called attention to this phalanx of editors. Let's see: There was Holtermann, of the *Canadian Honey-Producer;* Newman, of the AMERICAN BEE JOURNAL; Hutchinson, of the *Bee-Keepers' Review*, and your humble servants [A. I. Root and his son Ernest]. This little incident, quite accidental in itself, represents the fraternal feeling that exists among us, we feel sure; and God grant that editors of bee-papers may never be ashamed to sit together and be "kind o' decent."

Florida Honey Crop.—Alderman & Roberts, of Wewahitchka, Fla., report their crop of honey for the past season as follows:

Our honey crop has been about 75 pounds per colony. We have taken the honey from about 8,000 hives now. We have 1,000 colonies in Langstroth hives.

Transporting Queens.—Mr. G. M. Doolittle, in *Gleanings*, contends that "queens are not injured so much by transportation in the mails, or by express, as they are by the sudden check in egg production, that results from taking them away from full colonies in which each queen is laying perhaps her weight of eggs each day." This position is very reasonable, and is no doubt correct.

Commenting upon our friendly notice of the exhibit of Mr. A. I. Root at Columbus, he remarks thus: "How gratifying it is that editors of bee-papers, unlike some other pursuits, can say kind things of each other, and not exhibit signs of jealousy." Sure enough. If the editors of the periodicals of an industry cannot be just, reasonable and friendly towards each other, they ought to "get out," and make room for those who will not be such *fools* as to be jealous. We hate "jealousy." The Bible truly says: "It is as cruel as the grave."

Not Much Honey.—Mrs. L. Harrison, Peoria, Ills., writes: "There have been several frosts in this locality, and thin ice formed one night, yet on Oct. 7 honey came in quite freely during the warm part of the day. Golden-rod and asters are still blooming, also black-heart (*Polygonum Pennsylvanicum*). There is very little honey to be seen in the stores here, and what there is, is badly mixed. It took the bees all the season to fill a few boxes, consequently it is travel-stained."—*O. J. Farmer.*

Bee-Pasturage 8 Miles Away.—Away out in Washington Territory, on Fidalgo Island, there lives a bee-keeper by the name of H. A. March, who also has the only spot of ground in America where cauliflower seeds are matured as a crop. He has acres of them, and sells them to Eastern seedsmen. So says the Washington *Farmer* of the 12th inst. He has also discovered how far his bees go to their pasturage to gather honey. This he did by following with his boat under a line of bees across Padilla Bay. He traced them to where they were gathering honey from the golden-rods on Skagit flats, eight miles distant. He knew they were his, not only because he followed them, but because there were no Italian bees in the county at that time except his.

He also has a dozen poultry houses scattered over his place, at which he breeds special valuable varieties of chickens. He keeps them out of his garden by clipping their wings. Mr. M. is marching along, quite abreast of the times, in that new country so far away. The BEE JOURNAL visits the bee-men of that region as well as "islands of the seas," to instill the knowledge of the newest methods and the most profitable management of an apiary.

Autumn in England and its effect on the feeding of bees is thus described in the *British Bee Journal* for Oct. 11, 1888:

With the exception of a few cold days, bee-keepers in the southeastern localities have enjoyed splendid weather for rapidly feeding their bees in anticipation of the long winter on which we are about to enter. Snow, wind-storms, and extremely cold nights, in the north and midland districts, have, we fear, interrupted the feeding process.

The Union.—Mr. J. M. Hambaugh, of Spring, Ills., sent two membership fees for the Union, collected at the Clayton, Ills., Convention, and adds:

We had a splendid time at the Clayton meeting, and will send the report for publication soon. Resolutions were unanimously adopted requesting each member to send their money and names to the editor of the AMERICAN BEE JOURNAL, and become members of the Union, in the defense of right.

The Ventilation, by special arrangement, of a bee-depository, is decided to be unnecessary by the leading bee-keepers who have given their views in the Bee-Keepers' *Review* for October. Its editor sums the matter up thus:

Ventilation, simply for the sake of securing fresher or purer air, finds but little support; while the few who plead for special ventilation do so almost entirely upon the ground that they can thereby more readily control the temperature. Some who have been to the expense of furnishing their cellars with sub-earth and special ventilation, have finally abandoned it as not only useless but injurious. If bee-repositories are built sufficiently under ground it does not seem that ventilation would be very much needed for controlling temperature.

In October Days.

From Vick's Magazine for October.

I wander down the russet lane
And see the autumn's bonefires burn
Upon the hillside slopes again,
Among the sumac and the fern.

The Oaks have caught October's fire,
And drop their treasures in the grass,
While the still flame creeps high and higher,
Fanned by the warm winds as they pass.

The sky is dim in purple haze;
The spell of dreams is over all,
Unknown, save in the long, still days
When flowers fade and dead leaves fall.

The Constitution of the International Society.—It was a great disappointment to the Editor of the AMERICAN BEE JOURNAL (who was indisposed and absent much of the time), to learn that the Convention at Chicago, in 1887, did not discuss the merits of the new Constitution and By-Laws he there presented. These documents were "evolved" while on a sick-bed, under considerable difficulty, and were by him acknowledged to be imperfect in many points. The Convention was particularly solicited to discuss, and by its united wisdom improve both the Constitution and By-Laws, and we were surprised that they did not even attempt to do so—but when at Columbus, they adopted the whole, without discussion and without due consideration, we were even more astounded. We desired to offer some amendments, which the intervening time had suggested, and to obtain the views of others upon points which were open to discussion. But it was rushed through by a vote to adopt, in such haste as to show that it was done to get a troublesome thing out of the way as rapidly as possible.

We do not wonder, therefore, that Dr. Miller should seek to discuss it now in the bee-papers (see page 711). That is the next best thing to be doue, and we welcome it, even though we had no idea of the Doctor's views on the subject, until his article was received for publication.

Some of the points raised by Dr. Miller "are well taken;" others need discussion, and still others, when explained, will, we think, meet with his unqualified approval, as they now stand. We will review them by numbers, as follows:

1. His first point, suggesting the shorter name, is well taken and should be adopted. The title, "American Bee-Society," is short, expressive and appropriate.

2. In a society, standing at the head of the pursuit of apiculture on the continent of North America, surely *some formality is necessary* in determining who shall be its annual members, and a majority vote by show of hands would occupy but a minute for a dozen of such members. It is probably true that none may ever be voted *out*—still such a peculiarity may be desired, and the Constitution should give the Society the power to do so.

No such formality is required with delegates from affiliated societies—they are admitted free without vote, on their credentials.

3. As to the calling of special meetings, something unusual may arise, making it expedient to do so, and then to have the power is a desirable thing.

4. An address by the President is not one of the *new* features, but is no less desirable. Who is more conversant with the items of interest or business matters to bring before the Society, than the President who had charge of it during the intervening year? His address need not be a long one, but should cover the salient points, review the work done, the position attained, and the points deemed desirable by the Society's officers or members, etc.

5. Calling the names of officers, permanent members and delegates, to know who are present, is advisable, even if it does consume a few moments to do so, especially in a representative body. The names of annual members of a former meeting of course are not to be called. Their membership closed with the adjournment. This negatives the Doctor's objection entirely.

6. Giving notice of the regular meetings three months previous is *desirable*, but the law gives the least possible time to have the meeting held lawfully.

7. The items mentioned by Dr. Miller in this division should have received considerable attention, both by the committee, and also by the Convention. They were put into the By-Laws for the purpose of being *discussed* before being adopted. As that was not done, we ask for a general discussion, and will (D. V.) promise to devote our energies at the next meeting to have the whole Constitution and By-Laws amended, perfected, and put into running order.

The Columbus Convention did not appoint the committees required by the Constitution and By-Laws, evidently intending to leave that for the next meeting to do, which should be composed of its officers, life-members and delegates from affiliated societies.

In the meantime, we would recommend every apicultural society in America to elect a delegate to send to the next meeting at Brantford, fully instructed as to the needs and wishes of the local society, and to assist in completing the organization of the International Association.

Buckwheat as a Honey-Plant.—The editor of the *Canadian Honey Producer*, in his issue for October, reports 10 pounds of honey in a single day by one colony, from buckwheat. The day was showery, so the bees were enabled to work on it from morning till night. Now, friends, what is there in our whole list of plants, that are raised for honey alone, that has given a yield like this? I venture to say, that not one has ever yet given us anything like it. We should like to have friend Holtermann tell us more about it. Was the buckwheat the new Japanese, the silverhull, or the old-fashioned kind?—*Gleanings.*

Horticulture and Apiculture.—The two legislative halls at Columbus were occupied at the same time by bee keepers and fruit growers. They were friendly organizations, as they ought to be, and the fruit-growers sent a delegation to invite the bee-keepers to their hall to hold a joint session. It was accepted, with thanks. They discussed a subject which was of interest to both societies, and did it in a friendly way, too. This shows that a good, friendly, brotherly spirit is being engendered, and we are glad to see it. We hope that such may obtain all over the country, and general harmony may prevail. The *Orange Judd Farmer* thus mentions the matter in its issue for Oct. 20:

The convention was invited by Secretary Devol, of the Ohio State Horticultural Society, to visit the horticulturists then in session in the same building.

Upon entering the Senate Chamber the horticulturists were discussing the question of fruit fertilization by insects. In this the bee-men joined heartily.

It was decided that the little busy bee was a very useful insect to the fruit-grower in the way of aiding nature in the fertilization of flowers. The consensus of opinion was that "bees seem to 'roar' over the Crescent and Wilson varieties of strawberries in equal numbers." This answers the idea which some people have regarding the value of the perfect and imperfect flowers as honey-producing plants.

The feeling between the fruit-growers and bee-keepers is becoming more friendly every year. They are each beginning to see the necessity of the other for the best results in their respective lines of labor.

Yes, Brother Judd, we hail the omen of a better day, with delight. For this grand result we have labored full many years, and now hope that the peace and harmony may last forever.

Disposing of Honey.—The *American Apiculturist* says that one who has anything to sell must watch his chance and take every advantage of the market, and adds:

I have a brother who carries the mail between Wenham and a summer resort. The idea struck me that it would be a good place to dispose of some of my honey. One day I gave him a package to show the people, and the result was I found quite a sale for honey. He gets 25 cents per pound for it, and I allow 5 cents commission for selling it. You see we both make a good thing out of it, as it requires no extra time or labor to do the selling.

You who have honey for sale should take a sample package when going "to town," or wherever you go, provided the honey can be taken as well as not. In this way you can do your own advertising, and at the same time take orders to fill when going that way again. If there is much passing of teams by your residence, just stick up a "shingle," stating that you have pure honey for sale, and you will be surprised to know how many and how well people love honey.

Do Not Ship Honey to Us without first corresponding with us about it. We have received several undesirable lots without previous notice, or correspondence of any kind.

GLEANS OF NEWS.

"Manufactured Honey."—In the report of the Columbus Convention on page 695 (middle of the first column), Secretary Hutchinson noticed the fact that the editor of *Gleanings* was "hauled over the coals" for admitting to the market quotations in the number for Oct. 1, the words, "manufactured stock." As we felt sure the matter could be explained, and that it was an oversight in the type-setting, and would be fully ventilated in the next issue of our valued cotemporary, we did not refer to it editorially. We now give from *Gleanings* of Oct. 15, the following editorial, which fully explains the whole matter:

As the business for the second evening of the convention at Columbus opened, President Mason gravely announced that some heavy charges had been made against *brother A. I. Root*. He said he hoped that brother R. would be able to explain matters satisfactorily, but the whole thing looked very dark and suspicious. Thereupon he produced *Gleanings in Bee-Culture* for Oct. 1. Turning to page 748, he with great gravity read the report from St. Louis, from W. B. Westcott & Co., dwelling with much emphasis on the sentence, "Extracted *manufactured* stock, 4 to 5 cents." Your humble servant asked to be shown where on the pages of *Gleanings* such a sentence occurred. The President handed him a copy, and there was no getting around it. *Gleanings in Bee-Culture*, that has been so active in months past in contradicting slanderous reports of the newspapers, and insisting that, at the present time, very little spurious honey was to be found in any of our markets, has actually been quoting "manufactured honey at 4 to 5 cents a pound," as if it were a regular and reputable article of merchandise. A good deal of sport was indulged in at the expense of the editor of *Gleanings;* but upon his promise to investigate, and make ample apology and correction, he was let off for the time being, and the proceedings of the convention went on. It seems there was a good deal of hurry and rush in many directions just before John, Ernest, and myself got away for three days at the Centennial exhibit. As the market reports are usually not much more than a change of figures from the preceding reports, I believe I skipped them. Ernest did the same, and the compositors, perhaps, did not think why "manufactured stock" should not be all right. I at once wrote to W. B. Westcott & Co. for an explanation, and here is what they say about it:

Dear Sir:—Your favor of the 6th inst. is at hand, also our postal, Sept. 22. What we meant by manufacturers' stock was dark extracted honey that was too dark for table use, and that we sold to manufacturers of crackers, to tobacconists and others, such as mead men, etc. We did not mean to convey the idea that the honey is manufactured or adulterated.

W. B. WESTCOTT & CO.

St. Louis, Mo., Oct. 8, 1888.

It was my impression, as soon as I saw it, that the report alluded to means the poor honey usually sold for manufacturing purposes as above. In view of the damage, however, that has been done to our industury, I think it behooves us all to be careful how we express ourselves. Had the above item read, "Second quality, dark extracted honey for manufacturing purposes, 4 to 5 cents," all would have been well, and perhaps no great harm has been done as it is. The report was made on a postal card, and the end of the word "manufacturers" ran off the margin, so it was a very difficult matter for the compositor or proof-reader to decide just what the word was intended to be; but it certainly looks more like "manufactured" than anything ele. By making the word terminate with *ers* instead of *ed*, the meaning would be quite different.

The Paris Exposition of 1889.—Below will be found a circular letter issued by Hon. Norman J. Colman, United States Commissioner of Agriculture, and a supplemental directory note from N. W. McLain, Apicultural Agent.

WASHINGTON, D. C., Oct. 1, 1888.

The Congress of the United States having accepted on the part of this Government, the invitation of the French Republic to take part in an International Exposition to be held in Paris in 1889, has directed the Commissioner of Agriculture, by joint resolution approved May 10 last, to collect and prepare suitable specimens of the agricultural productions of the several States and Territories of the Union for exhibition at said Exposition.

A special division has been organized in this Department for this purpose, and a number of special agents have been appointed by me to collect suitable specimens for exhibition.

Statistics support the assertion that agriculture furnishes four-fifths of our exports, and it is to the interest of all our States and Territories that the United States should be creditably represented by this Department at the great exposition which the French people have organized at Paris, and which will attract countless visitors from all countries of the world. It is therefore needless to dwell upon the importance of the agricultural section of the United States exhibit.

In view of these facts, you are cordially invited to co-operate by every means in your power in the special work assigned to the agents appointed by this Department in this important duty....This Department would be pleased to hear from you, and to get your views as to the most appropriate products of your section of country, and such as would be most desirable for the purpose indicated. Very respectfully,

NORMAN J. COLMAN,
U. S. Commissioner of Agriculture.

☞ Please address all communications relating to bees, methods and devices used in bee-keeping, bee-forage plants, facts and statistics concerning bee products and methods of marketing, and methods of utilizing honey and wax in the arts and in manufacturing, to N. W. McLain, Apl. Agt. Div. of Ent., Hinsdale, Ills.

We hope that our readers will all feel interested in the effort being made to give to our chosen industry the prominence it deserves among other agricultural pursuits. Let each one determine what he can do to contribute to the success of this undertaking, and then act promptly.

No Honey from Buckwheat.—The Michigan *Farmer* prints the following concerning an experiment made by D. A. Jones, of Beeton, Ont., in taking 75 colonies of bees to 20 acres of buckwheat:

D. A. Jones, of Beeton, complains that though 75 colonies of bees were moved contiguous to 20 acres of buckwheat, at the opening of its bloom, the bees did not store any honey from it, but rather were compelled to use the stores already in the hives. The soil on which the crop grew was very poor, yet the buckwheat grew well and bloomed abundantly. The bees worked on it, but stored no honey. And he wants to know what the matter was.

At the Lennox Fair, lately held in Ontario, Canada, Mr. Allen Pringle made an exhibit, and this is what the Napanee *Express* says concerning it:

The exhibit of honey by Allen Pringle was quite an attraction, and was excellent for this year. It consisted of both granulated and liquid clover, buckwheat and basswood honey, and was shown chiefly in a dozen different styles of glass holders of various sizes; also styles of crates of sections. These were arranged in tiers one above the other, in square cone shape, being "topped off" by a couple of tin cans of honey. The exhibit was a surprise to many of those who claim to be adepts at bee-keeping. Mr. Pringle has made this industry a special study, and has advanced wonderfully....Mr. Pringle also exhibited a honey-extractor and four hives of his own get up. The latter were tested last and this year, and Mr. Pringle was delighted with the results. They promise to be quite an aid to bee-keepers.

The awards were as follows in the Honey Department:

Exhibit and quality of comb honey, Allen Pringle, Robt. Metzler and L. Hartman.

Exhibit and quality of extracted honey Allen Pringle, Robt. Metzler and A. Knight.

Money in Potatoes, by Mr. Joseph Greiner. Price, 25 cents. This is a complete instructor for the potato grower, explaining his new system in 40 lessons. For sale at this office.

A Magnificent Present

For every one who will send us a Club of five *new* subscribers for 1889, before next January. All the remaining issues of this year *free* to new subscribers.

This ATLAS

contains large scale Maps of every country and civil division upon the face of the Globe.

It is beautifully illustrated with colored diagrams, that show wealth, debt, civil condition of people, chief productions, manufactures and commerce, religious sects, etc., and a superb line of engravings of much historical interest & value, together with many new and desirable features which are expressly gotten up for this work—among which will be found a concise History of each State.

Price, in best English cloth binding (size, closed, 11x14 inches; opened, 22x14 inches), **$4.50.**

To any one sending us direct to this office **FIVE NEW Subscribers** for one year, with $5.00, (renewals not to count) we will *present* this beautiful Atlas, by mail, postpaid.

We have purchased one of them for our own use, and regard it as a valuable acquisition to our library. It is handsomely bound and contains a fund of very useful knowledge. It contains **192** pages.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St., - CHICAGO, ILLS.

QUERIES & REPLIES.

Average Yield Per Colony for a Term of Years.

Written for the American Bee Journal

Query 584.—What is an average yield of honey, per colony, for eight or ten years?—Illinois.

Twenty-five pounds.—MRS. L. HARRISON.

From 50 to 85 pounds, according to the location.—DADANT & SON.

In this locality (Michigan) about 30 pounds of comb honey.—H.D.CUTTING.

In my location (Georgia) it would be about 40 pounds.—J. P. H. BROWN.

Fifty pounds of comb honey, or 100 pounds of extracted.—EUGENE SECOR.

The average with me (Louisiana) has not been over 50 pounds.—P. L. VIALLON.

From 35 to 40 pounds in Michigan.—R. L. TAYLOR.

That depends upon the locality and season.—A. B. MASON.

More or less, according to locality. Fifty pounds would be a big average in my own vicinity—Massachusetts.—J. E. POND.

I *guess* that 75 pounds of comb honey, and 100 pounds or more of extracted. Perhaps that is rather too high.—A. J. COOK.

An average yield with me (Illinois) for such length of time has been about 40 pounds.—C. H. DIBBERN.

I have kept no statistics, and have but little idea; in my location (Indiana) I have got all the way from more than 100 pounds to nothing.—M. MAHIN.

In my location (New York) my average has been about 75 pounds per colony of comb honey, for the past 16 years.—G. M. DOOLITTLE.

I do not suppose that I could tell close enough even in my own location (Michigan) to give you any better idea than you now have.—JAMES HEDDON.

All depends upon the bee-keeper, the kind of bees, the kind of hives, and other appliances, and upon the location; all the way from nothing to 100 pounds per colony.—J. M. SHUCK.

I do not value very highly my reputation as a guesser, but I would not risk it on that. The question is a fair one, and I shall be glad to see the answers.—C. C. MILLER.

If I could forget the past three years I would say 50 pounds in my locality (Kentucky), but I have come to the point that I never expect to see any honey any more.—G. W. DEMAREE.

Much depends on location, and the care taken of the bees. Any estimate would probably be guess-work. In average years each colony should produce at least 75 pounds of extracted, or 40 pounds of comb honey in my locality—Illinois.—J. M. HAMBAUGH.

A "guess" is all that can be expected as an answer to the question. Our *guess* is about 50 pounds of both comb and extracted honey as an average for ten years, if that average is to include all the bee-keepers of the country. If only the more enlightened about 100 pounds. The specialists will average 25 pounds more.—THE EDITOR.

Removing the Queen to Secure More Surplus Honey.

Written for the American Bee Journal

Query 585.—1. Will removing the queen from a colony three weeks before the honey-harvest, secure more honey in the sections, instead of in the brood-nest, as the bees do after a swarm issues?—Ohio.

I have had no experience in that line.—A. B. MASON.

I think so, if I understand the question.—A. J. COOK.

I have never practiced this method. J. M. HAMBAUGH.

I do not belive it will, I do not understand the latter part of this question.—EUGENE SECOR.

No; if I understand the question, to do so would be disastrous.—R. L. TAYLOR.

In most of such colonies there would be less honey in the sections, and more in the brood-nest.—J. P. H. BROWN.

No. A good queen should be in the hive at all times.—C. H. DIBBERN.

Nothing can be gained by removing the queen, except that swarming may be prevented.—M. MAHIN.

It will secure more honey in the brood-nest, and less honey altogether.—DADANT & SON.

I do not propose to remove any good queen from any colony, unless I see better reasons offered for so doing.—H. D. CUTTING.

My efforts along the line of removal of the queen to secure a good yield of comb honey have all been failures.—G M. DOOLITTLE.

No. If the queen be removed at the beginning of the harvest, and no queen is allowed to develop, and the honey-yield only lasts about ten days, *yes;* otherwise, *no.* Comb honey secured by this method is almost certain to be badly polluted with pollen, and later on with the larvæ of the wax-moth. The best work and the cleanest crop can be secured only by having the colony *complete*—a good laying queen, a few drones, and a host of willing workers made cheerful by the perfect organization of their forces.—J. M. SHUCK.

The honey will not be used in rearing brood, and its place will be filled with honey. I would prefer a laying queen for this locality—Illinois.—MRS. L. HARRISON.

I do not think that it will. The question has been discussed somewhat in days past, but with the conclusion that it is unnatural, and therefore valueless.—J. E. POND.

I am not sure that I know what you mean by "as the bees do," but I doubt if removing the queen increases the surplus, unless indirectly by preventing swarming.—C. C. MILLER.

You will always notice that when a colony is queenless, that the bees will always store honey in all the brood-combs below, and it is only when they have a virgin or laying queen that they remove the honey to make room for the laying of the queen.—P. L. VIALLON.

No, sir, not in this locality (Michigan), and I am so positive that the idea is impracticable, if not nonsensical, that I am pleased to go on record as saying that it will never come into general use.—JAMES HEDDON.

I do not have room here to discuss this subject. If the queen is removed as described by you, the bees will store more honey because they will not have so much brood to feed. They will generally fill the brood-combs as the larvæ hatch out, after the fashion of a colony that has cast a swarm, and you will find that the extra consumption of stores necessary to replace the loss in way of bees, owing to the removal of the queen, will be greater than was the gain in honey by reason of the removal of the queen. Try it and report.—G. W. DEMAREE.

We doubt the policy of removing a good queen at any time from a colony of bees. Queenlessness is an abnormal condition, and should not be forced on a colony, except for good and sufficient reasons. It would probably result in having *less* honey in the sections instead of more, and *more* in the brood-nest, where surplus honey should not be tolerated in these days of enlightened methods of storing the surplus honey in neat sections containing virgin comb.—THE EDITOR.

New Subscribers can obtain the full numbers for 1887 and 1888, for $1.75, while there are any sets of 1887 left.

CORRESPONDENCE.

NEW LAWS.

Defective Points in the New Constitution and By-Laws.

Written for the American Bee Journal
BY DR. C. C. MILLER.

At the last meeting of the North American Bee-Keepers' Society, some discussion was had with reference to increasing the usefulness of the Society, and especially with reference to making it representative in character. Some members warmly opposed any attempt at change, because impossible to carry out, and then with singular inconsistency at a later time, jumped to the other extreme and assisted in making such a sweeping change as to revolutionize the whole affair.

At the Chicago convention in 1887, Mr. Thomas G. Newman laid before the Society a carefully-prepared plan for carrying out important changes, evidencing no little amount of unselfish labor in the preparation. Mr. Newman is entitled to a hearty vote of thanks, and the committee appointed to report upon the matter, namely, Prof. A. J. Cook, W. Z. Hutchinson and A. I. Root, deserve a no less hearty vote of—censure, for their neglect to consider and report.

Without in the least detracting from the labors of Mr. Newman, I consider the action of the Society in adopting an entirely new constitution and by-laws, which, it is pretty safe to say, but few of them had read—I consider the action at least hasty. It was probably more than was expected by its framer, for in presenting it at Chicago, he said, "Your committee can easily exclude, revise or make new provisions to suit their own views." Nothing of this kind was done, and it may be pertinent to ask whether the Society were any better prepared to take action at Columbus than at Chicago.

However, it is perhaps well that hasty action was taken, rather than no action at all, and in the columns of the bee-papers is a good place to discuss what changes, if any, should be made; in fact it is entirely in order to discuss the whole matter in all its bearings. I feel sure that friend Newman will not call in question my good intention, even if we should somewhat differ in our views. Indeed, I am confident that he will welcome the most rigid scrutiny.

The most prominent change attempted is that of making the Society representative, and if that intention can be fully carried out, the new Constitution will be a blessing, even if it makes a less approach to perfection than it now does. But it must be remembered that the Society can only *invite*, not compel representation, and on that account it may be better to discuss the matter here than at the sessions of the convention. My only fear is, that those who are not in connection with the Society, may fail to give to the subject the attention it deserves. And now, if you please, I will consider somewhat in detail the new Constitution and By-Laws, as published on page 695.

Criticisms of the Constitution.

1. The first article reads, "This organization shall be known as 'The International American Bee-Association,' and shall include in its territory all of the United States and Canada." The very pleasant meeting at Toronto is too fresh in my memory to make me feel that the exclusion of Canada would be anything less than a calamity, and the name "International American" was evidently framed with that in view, and on that account is eminently proper. The name is, however, somewhat cumbersome. As "International American" means among the nations of America, and as the nations of America are all American, would it not be equally well to simply call the Society "American Bee-Association," or, still better, "American Bee-Society?"

2. Section 3 of Art. III, requires a majority vote for the reception of each member. Is it necessary to take time for this? In all the history of the Society has there ever been a case in which an applicant would have been voted out?

3. Without being very fully informed on the subject, I doubt the expediency of Art. VII, which says, "Special meetings may be called by the President, Secretary and Treasurer."

4. The last clause of Art. II of the By-Laws makes it the duty of the President, "at the expiration of his term of office, to deliver an address before the Association." Even with so good a President as Dr. Mason, I think the time could be more profitably occupied in discussion, and if the Doctor should be impeached for a violation of this clause, I will try my best to defend him.

5. The fourth by-law requires the Secretary "to call the names of the members of the Association at the opening of each annual meeting." Except for the time taken, this can do no harm, but in a society so migratory in character, it can do little good. Had the roll been called at Columbus, only twelve would have answered.

6. It is also made the duty of the Secretary "to give notice of all regular meetings of the Association in the bee-papers, at least four weeks before the time of such meeting." Would not "at least three months before" be better?

7. According to Art. VIII, a "Honey Company" is to be formed to sell honey. If no thought is given to this before the formation of such "Honey Company" at the Brantford meeting, will it not be a failure? And is not the whole business of honey-selling something so out of the usual line of the Society that it should have been carefully discussed before agreeing to enter upon it at all?

Another item that might well have received some consideration before its hasty adoption, is that of "prizes for honey" in Art. IX, Sec. 2, Sub-Sec. (2) of the By-Laws; and still another is found in Art. XI, relating to giving diplomas to experts in bee-keeping. However well this may work in England where bee-keeping stands on a different basis, and where distances are not so great as in this country, it may well be questioned whether it is desirable or practical in the United States and Canada. Even granting that the committee of three, who are to examine candidates, may make arrangements so that each one of the three may act separately, I doubt if the three members can be so located that there shall not be points of territory one or two thousand miles distant from any or all of them.

Discussing Its Merits.

It may be asked, what good will come of discussing these things now? In reply I may say that it looks to me that when it comes to the matter of carrying out the provisions of the new Constitution and By-Laws, discussion will, almost of necessity, arise, and it may be the better way to look everything squarely in the face, and instead of spending time in the convention, discuss the affair in the columns permitted for our use. It is true that I am talking about what I know very little about, and it is quite possible that I am far from right about some if not all the points mentioned, but others may be just as ignorant as I, and light will hurt none of us.

As I have already intimated, the one thing in the new Constitution making the Society representative, if successfully carried out, over-balances all the defects I have mentioned, if such defects really exist.

Marengo, Ills.

[Editorial comments on the New Constitution and By-Laws may be seen on page 708.—ED.]

WINTER FOOD.

Some Observations on Feeding and Wintering Bees.

Written for the Farm, Field and Stockman

BY S. E. MILLER.

If the fall finds your bees short of a winter supply of honey, feed about a quart of syrup or honey every evening until they have sufficient. If you wish to use syrup, and do not know how to make it, use this recipe: Take about four parts of granulated sugar to one of boiling water, and boil till the sugar is well dissolved. This will all be used up before you get any surplus the next season, so you need have no fear of having your honey mixed with sugar syrup.

If the bees seem backward about taking the feed, give it to them warm, and pour a little down among them, and then make a trail of syrup or honey to the feeder.

While a great part of the bee-keepers, and perhaps the majority of them, are in favor of cellar wintering, and while I have no doubt that it is best further north, I do not believe that it will pay to go to the trouble of cellar wintering in this latitude (Central Missouri). Still, the bee-keepers having the largest apiaries in Montgomery county, practice cellar wintering, and I should not advise those having suitable cellars to leave their bees outside if they believe in wintering bees in the cellar.

My brother and I have wintered our bees out-of-doors for the past three winters with fair success; our apiary, however, is well protected on the northwest, which may have something to do with it, and I should advise all who winter their bees out-of-doors to have some kind of a wind-break to shelter them from the prevailing winds.

In case you have to feed, it should be commenced as early as you can tell whether there will be a honey-flow or not from autumn flowers. If neglected too long, the bees may not be settled down for winter when it sets in.

When through with preparing your bees for winter, you will most likely have a lot of combs to be taken care of through the winter; if containing honey, they should be kept in a dry room, where the temperature never gets much, if any, below freezing. They should be looked after occasionally, if there is much warm weather, to see that the moth does not destroy them. These combs, if containing honey, will come handy in the spring, if you find any of your colonies running short of food.

Montgomery, Mo.

Some Autumnal Api-Thoughts.

Written for the American Bee Journal

BY GEO. W. YORK.

The summer now is ended,
The bee its work has done—
Its hum no more extended
To greet the morning sun.

Its days were full of toiling,
In garnering the stores,
Lest much of it bespoiling
On fields, side hills and shores.

The bee hath hastened ever,
That time may not be lost,
To gather up what never
Should waste at any cost.

And now the winter cometh—
With cold and stormy breeze—
"That tries the souls of men,"
And sometimes those of bees;

But frugal little workers,
With stores of nectar sweet,
Are never like the shirkers,
Who nothing have to eat.

Then quietly they cluster,
Between the combs so snug—
All ready for spring muster
Is every "honey-bug."

Chicago, Ills., Oct. 22, 1888.

PURE BEES.

Parthenogenesis Discussed—Rearing Pure Bees.

Written for the Home and Farm

BY T. E. HANBURG.

This is a subject every apiarist should understand. Without an accurate and thorough knowledge of this theory, the practice of bee-culture cannot be conducted with the skill and judgment necessary to successful results.

This theory as applied to the honey-bee is, that the eggs of a virgin queen will hatch, but that such eggs will only produce drones, and for the eggs of any queen to produce workers or queens, she must be fecundated once in life by a drone.

If this drone is impure or is tainted with black blood, the progeny of such a queen will not be pure Italian bees, and hence, the workers will not be uniformly marked with the three distinct yellow bands which always characterize the pure Italians. Some of these bees, it is true, may have three bands, but others will have only two, and some one, hence they will be pure, mixed bloods or hybrids.

If now a queen should be reared from the egg of such a queen, and even though she mates with a pure Italian drone, her progeny will not be pure. This is the reason that so many commence with Italian bees and after a while they run backwards into hybrids, and should a queen be reared from the egg of this latter queen, the resulting workers will run still further backwards until they are black bees. It will thus be seen that a contamination, be it ever so slight, will lower the standard of the pure bees.

A theory has been advanced which has a large number of adherents, that an Italian queen will always produce pure drones, no matter with what kind of a drone she has mated. I do not accept this theory, but reject it in part, with all due respect to the opinions of many eminent apiarists. They claim with due force, and that which is true, that the sperm of the male is so managed in the oviduct of the queen that she can impregnate the eggs, or not, as they pass down through the oviduct, and come in contact with the spermatica which contains the male sperm. All eggs thus passing without touching and absorbing some of the male sperm produce drones only, and that the eggs, becoming thus impregnated, marvelous as it is, produce queens or workers, according as they are treated by the bees.

They claim that which is true, that the queen can and does impregnate these eggs at will. Of course, eggs thus passing the oviduct without coming in contact with the spermatica, produce drones only. This theory I do not carry further, and believe in its entirety.

It is a well-known fact that if a pure leghorn pullet mates but once with a black Spanish cock, her chicks ever afterwards will occasionally show a black feather: and by like reasoning and by observation which comes by a long practical experience, I believe it is so with bees.

If those who fully hold to this theory think that the mating of an Italian queen with a black drone, has no effect on her progeny, they must be somewhat in error, for certainly by absorption the queen's blood becomes somewhat contaminated, as the effect of such mating. She may be able to produce pure or nearly pure drones, but the contamination is in her blood all the same, which will show to some extent in her workers, and of course, if an egg from such a queen, which would have produced a worker be so treated that it produces a queen, such a queen will not be a pure Italian, but will be hybrid, and her drones, of course, will partake of this quality.

It is generally conceded that it is rare that an Italian queen will duplicate herself in her daughters. The old queen may produce workers, every one of which will show the three distinct bands, but her daughters, as a rule, will produce bees that vary in this respect. This may be owing to the daughter's mating with a half-blood drone, or it may be owing to the mother or grandmother, etc., hav-

ing been impure. This rule holds good with fowls, as has been stated.

With the mamals it may be claimed by some that impurity is caused by carrying the young in the uterus, and thus the blood of the mother becomes contaminated with the blood of the sire; but with the fowl such cannot be the case, and the impurity, as with a queen-bee, must be caused by absorption of the male sperm. This, of course, is reasoning by analogy, but the presumption is that such reasoning is correct. I therefore leave it for the readers to decide, if a pure Italian queen mates with a black drone, will her drones after such mating be pure?

I have known queens whose progeny would be uniformly marked with the three bands. These bees would be quiet, easily handled, little given to stinging, good nurses, excellent honey gatherers, would cling quietly to their combs while being manipulated, and in every respect were model bees.

I have known a second queen reared from this first queen, and although she undoubtedly mated with a pure Italian drone, her bees would be unevenly marked, given to stinging, and when the hive was opened, would be restless, crawling here and there in the utmost confusion. It might be said that there was a mistake here, and that this queen mated with a black drone, but I do not think this falling off is always to be accounted for in this way. The queen away in the long ago was contaminated, and this contamination shows out occasionally. Of course, when a pure queen mates with a black drone, the resulting bees are hybrids, and they may also be contaminated in the above manner.

It will thus be seen that every bee-keeper who wishes to have pure Italian bees must be vigilant and careful. When he has a queen that produces pure bees, and he rears queens from her, he should see to it that, when she flies out on her wedding tour, no drones are allowed to fly whose mothers are not pure, and whose progeny in every instance shows the marking of pure Italian bees.

It appears from this that those who rear queens should pay careful attention to having pure drones; and by seeing rigidly to it that none but pure drones are allowed to mate with these queens, he can build up impure queens into a state of purity little inferior to those which come from sunny Italy.

I do not tolerate impure queens or drones in my apiary, and he who loves bee-culture, must breed upwards and not downwards. If this course is pursued, he will be amply repaid in many ways. It is also good to occasionally purchase a queen from a distant breeder with which to cross the blood, and to stop in-breeding.

Carefully note the progeny of every queen, and tolerate those only which are pure, and which show in every bee the three distinct yellow bands. Keep your bees pure, and you will not only be rewarded with large crops of honey, but you will derive a greater pleasure from a calling which is not only honorable and lucrative, but elevating and ennobling.

WINTERING BEES.

Best Age for Bees to Go into Winter Quarters.

Written for the American Bee Journal

BY J. E. POND.

As is well known, I always winter my bees on the summer stands, and for years I have met with practically no loss. This I conclude depends more upon prepartion than any other cause, and after repeated experiments I have come to the conclusion that extra-late breeding makes no real difference in results.

For years I had the idea that late-bred bees must winter better than those that were older, but the theory, plausible though it be, is not borne out by the facts; that is to say, I get no better results in wintering from causing the late-breeding, than I do from allowing strong colonies to manage the matter as they please.

Of course there are exceptional cases. If a colony is weak in late summer, from any cause, such as a poor queen, or the queen being crowded out by an extra honey-yield, as may happen at times where the greatest care is used, then I may be obliged to strengthen up my colonies for winter, by forcing the queen to the latest possible point of time; but under ordinary conditions, I find that bees bred as ordinarily done, with no special attempt to force the matter, go through the winter fully as well, and come out in the spring fully as strong, as with forced breeding; and such being the case, I am of the further opinion that too much interference in that direction, at the hands of inexperienced persons, under the instructions as given at the present time, will prove hazardous, and do more harm than good.

I do not think that in the hands of experienced men, late breeding will do any harm, but I fear that those who attempt the matter without knowing just how it should be done, will fail in the work.

Late breeding artificially, is rather against the natural law, and any variation from that law, must be made on certain lines, else failure must ordinarily result; for this reason, I advise those only who have large experience, to attempt the matter on a large scale. Those who have no large experience, should go slow, and gain that experience by working on a colony or two only, until they fully understand the matter.

North Attleboro, Mass.

FALL WORK.

Some Hints about Necessary Seasonable Work.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

Whatever work has to be done with bees should be done before they enter the quiescent state. They should have stores enough to last till flowers bloom, as spring is a poor time to disturb them. Feeding during early spring excites them to an unusual activity, and they fly out, get chilled, and never return. Many a colony, that swarms out in early spring, might be traced to some disturbing cause. I had a nucleus pass a very mild winter on its summer stand. I was so pleased about it, that I began to coddle it, and put frames of honey back of the division-board. It soon began to carry the honey into the brood-nest, became very lively, and in a few days swarmed out, and was destroyed while trying to enter a hive containing a large colony.

"Of all sad words of tongue or pen, the saddest are these, 'It might have been!'" Had I let them alone, they might have built up into a good-sized colony by the time flowers bloomed. Bee-keepers have arrived at the conclusion that the best time to do spring work in the apiary, is to do it in the fall; or rather, anticipate and do all that is necessary, and not disturb them in the least until warm weather has come to stay.

Frost Not Yet Injurious.

There have been several frosts, the first occurring in this locality Sept. 27, but not sufficient to injure grapes or kill tomato-vines in our garden up to date, Oct. 2. The golden-rods and asters appear to be but little injured, and, as the days are quite warm, may continue to yield a little honey.

Death of the Drones.

Bees conclude that the season is over, and that they cannot afford such luxuries as gentlemen of leisure. Father Langstroth kindly gave him a day in court, and ably defended him against his accusers, but his eloquence

was all wasted, for he is persecuted as badly now as ever. It is pitiable to see him walk the plank, with a policeman each side of him as he sings the death-watch.

But the law of the hive is "the greatest good to the greatest number," and must be obeyed by the highest as well as the lowest, queens, drones and workers. He fares no worse than the rest; as soon as the queen becomes infirm or is injured, unfitting her to perform her allotted duties, she is carried out and another reared to fill her place. So also it is with the workers.

It is no use for the drone to plead that he is not to blame for idleness, that he has no bag to carry honey in, for he is told, all the same, that his room is better than his company. He submits with more grace to his fate than do some of the human family, who are now suffering under severe quarantine regulations, to prevent "the pistilence that walketh by noonday," spreading itself all over this fair land. "The greatest good to the greatest number," is a very good rule to observe, whether in communities of bees or of men.

Removing Surplus Honey.

The sooner surplus honey is taken from the hives the better, for Italian bees are always looking out for No. 1, and will fill up the brood-nest as fast as it is empty. I have been surprised many times to see the difference between black bees and Italians in this respect. After removing boxes filled with surplus honey from the black colonies, I would find that the body of the hive was nearly empty, while the Italians were full—more provident, it seems.

I removed a case of sections lately in this way: I removed the cover and sheets, and blew smoke down through them, driving the bees below, when it was removed, and carried into the honey-house. A few remained, which gathered in a cluster upon the window, and when it was darkened and the door open, flew out. When Dr. Miller removes his cases of sections, he piles one upon the other, until they are five or six high, and places a little tent, made something like an Indian wigwam or tepee, on top. This can be made of mosquito-netting, with rubber elastic in the bottom, to fit nicely around a case, with a hole in the top. Smoke does not issue out of this hole, but bees do. It needs some sort of a frame-work, either of wire or of wood, to hold it up.

Where there is only a small amount of honey secured in close boxes, or those made by nailing sections together, a barrel is a good receptacle to put them in while the bees are leaving them. It should be covered closely, so as to be dark inside, and have a little hole by which the bees can escape; they will see the light and come out, while robbers will not find it. Sometimes it is well to pry up the cases or boxes one day and leave them until the next. If the night following is cool, the bees will all cluster below, and they can be removed early in the morning, when there are no bees in them.

Peoria, Ills.

BEE-LANGUAGE.

What the Bees have Taught Us—They do Hear.

Written for the American Bee Journal

BY J. O. SHEARMAN.

On page 599, Dr. Miller states that the young queen utters a "shrill cry, pe-e-p, peep, peep," replied to by the young queens in their cells, "quahk, quahk." Now is it possible that as fully developed a bee-master as Dr. Miller, does not know that the queens make the noise with their wings? Such is the case, however. I have seen them do it—a short, quick, vibratory motion; and the hoarser "note" of the queen in the cell is caused by its confined position—though they have room to make the motion all the same.

It seems to me that this alone should settle the question, "Do bees hear?" Why do they make any noise else? What is hearing anyway, but a concussion of the waves of sound upon any sensitive object, whether it be ears or the soft parts of bees *all over them*. We all know that bees are very sensitive, and their sense of sight, smell and taste are more acute than most other animals; and I claim they are equally sensitive to sound. Why, they even have a bee-language, and I know it, for I have learned a part of it by practice—all by notes made by their wings moving in different ways, and with different velocity.

A worker bee can make a noise in the same way that a queen does, but it sounds more like "perrt" to her "peep." Then it is easy to tell just when a swarm starts, even with my back to them, at 10 or 12 feet distance (and often more), and right in a yard full of bees that make a great deal more noise than the swarm does when first starting.

I could give many more instances, such as the change in the note when a queen is given to a queenless colony, even while she is in the cage; also their "call," when bees start for the hive, if they are shaken down in front of it. But what is the use? We all know it.

Further, as to the usual combat when two or more young queens hatch, only the one first recognized by the bees goes on the "war path," as I call it. The rest avoid her, and each other, until they happen to meet, or else are expelled by the bees, or go out with the second swarm, as it sometimes happen with even 3 or 4 young queens. Then in that case the bees "ball" all but the first one, after being hived.

New Richmond, Mich.

QUEEN-REARING.

Effect of the Swarming Impulse on Queen-Rearing.

Read at the Wabash Co., Ind., Convention

BY J. J. MARTIN.

Every bee-keeper knows the importance of having a strong and vigorous queen in order that the colony may be profitable; and in order that we may have good queens, the queen-rearer studies and makes use of all the means possible to bring about the desired result, so that the queen-bee or mother of the colony, may possess as far as possible all the good qualities, such as honey-gathering, gentleness, etc.

It is the general impression with most bee-keepers that the only good queens are those reared under the swarming impulse, which I admit is a correct view in one respect; but I am prepared to say that better queens can be reared by what is termed the "artificial process" by some bee-keepers. Yet it is the natural process after all, with the assistance of the queen-breeder, whose knowledge in this particular line should be of value in proportion, as it is in any other department of the apiary.

The swarming impulse can be brought about without waiting for it naturally, by removing the queen from a strong colony and uniting with this colony young bees from other colonies, until the hive is overflowing with bees; then remove all the eggs and unsealed brood, and give the colony eggs from a selected or imported queen, and the colony will build from 15 to 20 queen-cells. The great advantage gained over natural swarming, is in having the cells built from the eggs you wish them.

In twelve days the cells will be sealed, and can be cut out and placed in the queen-nursery, or in queenless nuclei, to hatch, always selecting the best and most nearly perfect cells. If hatched in the nursery they are introduced to queenless nuclei or colonies, and in five days they fly out to meet the drone.

Here is another point of great advantage—allowing drones to fly only from selected colonies, all others being kept in the hive by the use of perforated zinc, or by the use of the ordinary drone-trap, thus mating the queens with the selected drones, or just those desired. This, I think, makes a gigantic stride, in my estimation.

It is sometimes argued that there is so much danger of queens mating with black drones from a neighboring forest, or from a colony of black bees, kept by some one in the vicinity of the apiary, but I believe it is only a rarity where this occurs, when a large number of drones are present in the apiary; for, from close observation, I am lead to believe that the virgin queen flies but a very short distance until she meets the drone and returns to the hive.

After mating, the queen will usually lay in three days, and if she lays in worker-comb, we may safely conclude that she is properly fertilized. Now, to cull again, take only those which are large and vigorous.

We have queens superior to those reared by the ordinary colony without any assistance. To the average bee-keeper, this is of but little interest, as the rearing of a small number of queens would necessitate the disturbing of one or more of their best colonies, during the very best of the honey-flow. It would prove quite expensive, if only a half dozen or more queens are wanted, as the same colonies would gather more honey during the 25 or 30 days required in hatching and mating the queens, than would buy the same number.

North Manchester, Ind.

CONVENTIONS.

The Importance of Being in Attendance, etc.

Written for Gleanings in Bee-Culture

BY PROF. A. J. COOK.

Since returning from the meeting in Columbus, I am more than ever convinced of the value and importance of such gatherings. I have always felt that there could be no mistake in this matter. The common practice of all intelligent societies sustains this position. We say the farmers, as a class, have suffered from isolation and the lack of such associations, and that the Grange was a God-send to the farmer, in that it supplied this long-felt want. Mr. Heddon and I have often argued this matter *in extenso*, both by word of mouth and by letter; and while I have very great respect for Mr. Heddon's ability as a bee-keeper, which is rarely surpassed, I cannot but believe that in this matter he is wholly wrong. The opinion of the world, as expressed in actions, is with me, and not with him.

There is one serious obstacle in the way of making our meetings in the highest degree satisfactory; that is, the great size of our country. If our association is to warrant calling it North American, we must not limit the meetings to one section of country, nor have we done so. New York, Rochester, Toronto, Cleveland, Detroit, Columbus, Lexington, Cincinnati, Indianapolis, and Chicago, are wide apart. I think it would be well to go to St. Louis, Louisville, Philadelphia,* Pittsburg, Richmond, and New Orleans.

But it has always appeared to me that such meetings were more successful where some one appeared in person, invited the association, and so became in some sense responsible for the success of the meeting. Thus it was that I moved and favored the going to Brantford next year. I feel sure that Mr. Holtermann will spare no pains to make the meeting a success. I should have preferred, had we been invited, to go to St. Louis or Kansas City.

Now, if we thus migrate we cannot expect to have the same persons present each, nor representatives from all sections. It is too expensive. Of course, if State associations would appoint and bear the expenses of delegates, this might be done. But from my observations in other associations, I much doubt the success of any such plan, much as I should like to see it succeed. Yet for all this I still think we can make the meetings representative.

While we may not secure the personal presence of Smith and Jones at each meeting, we can secure their brains, their thought, which, after all, is what we want. I believe most thoroughly that what we need and must secure is such action by our Secretary, in preparation for each meeting, as will call forth in brief, say fifteen minutes, carefully prepared "papers," the best that is known, from the best bee-keepers of the several States. I say, "*prepared* papers." I mean just that. Then we get mature views, and concise, well-digested pointers. Our best men will do better, when time is taken to carefully prepare themselves.

Thus we shall have a dozen or fifteen just such admirable presentations as Dr. Tinker gave at Columbus. Then we have a representative meeting. We have some facts of real value presented from all sections. We have some topics to hold us in our discussions. Oh! but it did me good to have my dear friend Dr. Mill——but I must not call names—say to me at Columbus, "I believe you are right in this matter of papers." It is such a comfort to see our friends converted. If I could only get Mr. Heddon out to conventions, I should soon have him on my side as to their importance.

I hope this matter will be fully discussed. I desire that our next meeting be a grand success, and thus a type of the many more to follow it. I believe these meetings may be a great blessing to all, not only to those who attend, but to those who stay at home. I have made some suggestions in the above. Who will speak next?

Agricultural College, Mich.

Mr. A. I. Root, editor of *Gleanings*, remarks as follows on the subject:

Friend Cook, I heartily agree with all you say; and although I myself am much inclined to backslide a little, especially if I do not attend the conventions for a while, I never get home without feeling that I am a wiser and a better man, and with a feeling, too, that I have been fulfilling better the purpose for which God placed me here upon this earth. In other words, I do believe that the man who stays at home hurts himself. The great troubles and trials that beset us through life are often caused by not being acquainted. The uncharitableness, the greed, and selfishness, which we see exhibited are the consequences and outgrowth of staying at home—yes, oftentimes of sticking to business. Of course, there are people who do not stick to their business enough, or, perhaps, not in the right way; but they are exceptions to the general rule. Inasmuch as our good friend, the editor of the AMERICAN BEE JOURNAL, gives a carefully prepared report of all the proceedings of the convention, we have not thought best to take space for it here; but I want to speak a little of the social time we had outside of the regular meetings.....

Before our last *evening* assembly opened, we were informed that the Senate Chamber, which we occupied, must be vacated exactly at 9 o'clock, for another crowd. Yankee-like, we inquired what the next crowd were going to do. The reply was, that a large company of male jubilee singers were to practice on some campaign songs; and when we suggested that the bee-men were fond of music, we received a very cordial invitation to remain. Well, the singing was the grandest and the finest, I believe, I ever heard in all my life. It never dawned upon my simple understanding before, that the human voice unaided is capable of such flights of melody as we had there. These singers, of course, and the audience, were,

as a rule, members of one of the great political parties. Bee-keepers do not all think alike, nor vote alike, and I do not know but I should be a little ashamed of them if they did; but I was happy to hear those who hold different political views from the sentiments of the campaign songs join heartily in the enjoyment of it.

Our talents, abilities, and accomplishments are in different lines. Friend Newman is, perhaps, not so much of a bee-keeper as some of the rest of us; but he has a wonderful gift in the ease and clearness with which he makes himself understood to everybody. President Mason had to be continually telling us to speak louder, while friend Newman could, without doubt, make himself heard and understood to a thousand people. He is perfectly at home and at ease in addressing an audience, while a great many, like myself, feel neither at home, nor exactly at ease, in such a place.

On the Centennial grounds is a great building erected exactly on the plan of a half-sphere—an immense dome, so high and broad that one speaker can easily make himself heard by 12,000 people. Not a stick of timber, nor a pillar, nor even an iron-rod, breaks the space enclosed; and we soon discovered that the acoustic properties of the building are wonderful. A piano and an organ stood there invitingly open; and by a little persuasion Dr. Miller was induced to sit down and sing my favorite hymn, "The Rock that is Higher than I." To my surprise, and perhaps a little to his surprise also, he discovered that his voice would fill the room easily; and before he got through, several came forward and joined in the hymn. Then we had the pieces which we give in this issue, and on page 756 of the last number, and several more joined in the chorus. One friend attracted our attention by his beautiful voice, and Dr. Miller asked him if he was a *bee-man*. He said he was not a bee-man, but we found out he was one of the 150 who surprised and delighted us at the campaign meeting the night before; and as we chatted with him we felt that we had found a new brother—yes, *a brother in truth*, although those that sang together represented the politics of at least three of our great political parties.....

There are grand enjoyments provided for us, even in this world, in the way of using our eyes and ears and other senses intelligently; and the only way to use them intelligently is to get acquainted—to know by face and to know by reputation; and if we stay at home there is no way in the world by which we can know about and enjoy in the *right way* these things God has, in his wonderful wisdom and love, provided for us.

*Prof. Cook seems too have forgotten that the sessions of 1873 were held at Louisville; 1874 at Pittsburgh, and 1876 at Philadelphia. In 1885 the International Congress, a similar meeting, was held in New Orleans—taking four out of the six places named, and leaving but St. Louis and Richmond.

The next meeting at Brantford, we feel sure will be the greatest success of the present decade. Mr. Holtermann intends to leave no stone unturned which may be used to advance its interests. Prof. Cook is quite right about having some one interested, on the spot, to manage the matter.

Any meeting not having a full programme of carefully prepared essays, will be more or less of a failure, as Prof. Cook says. The foundation is now laid for making the Society a grand success, and all our energies must be devoted to that object from now until the next meeting at Brantford.

SAFE WINTERING.

Methods of Preparing Bees for Safe Wintering.

Read at the Wabash Co., Ind., Convention

BY AARON SINGER.

This subject is a puzzler. After we read the current literature on the subject of wintering bees, and find all kinds of ways and devices set forth for the successful wintering of our colonies, yet we are at a loss to come to a correct conclusion in this matter, as to which is the best and cheapest way to winter bees successfully. If each bee-keeper were asked separately, as to his ideas of wintering, I doubt very much if any two would agree on all points. So the best that I can do, is to give my ideas on this subject without trying to follow any of our great leaders.

To winter well, colonies should go into quarters strong in bees, as there will be more heat generated when it is necessary by a strong colony than by a weak one. All will agree that a certain amount of animal heat is essential to the vitality of the colony. The question then arises, how can we best pack or prepare our bees so as to retain the greatest possible amount of heat?

Many, perhaps, have observed that colonies having plenty of good stores, winter well in the old-fashioned box-hive. The bees generally glue shut all cracks and crevices near the top with propolis, this being no doubt done to keep the heat from passing off so rapidly. The combs are generally built so as to form a double wall on the outside of the cluster, and in this way the bees form a natural double-walled hive for their own protection against cold. This will lead us to the conclusion that the colony in a movable-frame hive should have more protection around the hive than a single wall affords.

Winter Protection for Hives.

I use something like this, as an additional protection around the outside: Make four sides of a box separately, out of rough lumber, about 10 inches larger each way than the hive, and about 10 inches higher. These separate pieces can then be placed around the hive and nailed at each corner with two nails. The hive is then enclosed in a box with 5 inches of space around the outside.

An entrance must then be left to the hive through this space, which can be made by nailing together two boards about a foot in length, and 8 or 10 inches wide. Put two strips about one-half an inch thick, between the boards near the edges before nailing together, and then you will have a passage-way through the boards one-half an inch in height by nearly the width of the boards. Arrange this so that one end of the opening is against the entrance to the hive, and the other end protruding from the box. This gives the bees a place of ingress and egress.

Then all the space between the hive and box can be filled with sawdust to the top of the box. After this is done, cover the box to keep out rain, and let the bees alone.

These boxes can be taken apart and piled up when not in use, and they will last a long time.

A very good outside protection is to shovel snow all around against the hive; but there is an objection, that this has a tendency to jar the bees and cause uneasiness.

Accumulation of Moisture in Hives.

The accumulation of moisture is one of the drawbacks in wintering. It is advisable that some arrangement be made for it to escape from the cluster, without allowing much of the heat to escape with it. A sack made of some light material, the size of the hive on top, and filled with clover chaff, or some like material, makes an excellent covering for the bees in winter.

This absorbs the moisture arising from the cluster, and at the same time it does not let the heat pass off rapidly.

Good Stores for Winter.

Another very essential thing is plenty of good stores of honey. I would pay but little attention to pollen, for I am not able to say that it does much damage in excess of its good.

It is a question whether it pays to take all the honey from bees and give them a substitute in the form of sugar, as it is quite an additional amount of labor to make the exchange properly.

Some bee-keepers prepare their bees for winter with no labor or expense, by just letting them stand as they were at the close of the honey season, with all the fixtures and everything on the hives. This is a very cheap way to prepare bees for winter, but the outcome in the spring is expensive to them in losses, besides the remorse of conscience which should come to all such, for cruelty to their living property.

In conclusion I would say, put an absorbent on the hive; leave the entrance open; protect the outside of the hives in some way; see that all colonies are strong in bees and natural stores—and then give them a good letting alone!

Wabash, Ind., Oct. 20, 1888.

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee-keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The Marshall County Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Friday, Nov. 16, 1888, at 10 a.m. All bee-keepers are cordially invited to meet with us, and bring along anything that they may have that will interest or benefit apiarists. J. W. SANDERS, *Sec.*

☞ The next regular meeting of the Stark Co. Bee-Keepers' Society will be held in Grange Hall at Canton, Ohio, on Saturday, Nov. 3, 1888, at 10 a.m. Matters of importance to bee-culture will be discussed. Every bee-keeper is requested to be there. MARK THOMSON, *Sec.*

☞ The Alabama State Bee-Keepers' Association will meet at 10 a.m. on Wednesday, Nov. 14, 1888, at the office of the Secretary of the State Fair (in the Fair Building), in Montgomery, Ala. Members are urged to attend, and all persons interested in bees and honey are cordially invited. J. M. JENKINS, *Sec.*

International Bee-Convention.—The Pamphlet Report of the Columbus, Ohio, Convention is now issued, and copies have been sent to each member, as well as to the Colleges, Agricultural and Horticultural Societies and periodicals devoted to the industry. Copies can be obtained at this office, by mail, postpaid, for 25 cents. This pamphlet contains the new bee-songs and words, as well as a portrait of the President. Bound up with the history of the International Society, and a full report of the Detroit, Indianapolis and Chicago conventions, for 50 cents, postpaid.

CONVENTION DIRECTORY.

1888	*Time and Place of Meeting.*
Nov. 3.—	Stark County, at Canton, Ohio. Mark Thomson, Sec., Canton, O.
Nov. 14.—	Alabama State, at Montgomery, Ala. J. M. Jenkins, Wetumpka, Ala.
Nov. 16.—	Marshall County, at Marshalltown, Iowa. J. W. Sanders, Sec., LeGrand, Iowa.
Nov. 21, 22.—	Pan-Handle, at Wheeling, W. Va. W. L. Kinsey, Sec., Blaine, O.
Dec. —.—	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.
1889.	
Jan. 9-11.—	Nebraska State, at Lincoln, Nebr. J. N. Heater, Sec., Columbus, Nebr.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Mammoth Mignonette.—Mr. B. C. Griffith, of Griffith, N. C., on Oct. 18, 1888, says:

I send a part of a plant which please to name through the BEE JOURNAL. It seems to be a good honey-plant; my bees have been on it more or less since the last of May—five months—and it is still in bloom. If it is of value, I would like to know it.

[It is *Reseda grandiflora*, or mammoth mignonette, a good honey-producer.—ED.]

An Aster.—J. O. Dedman, Harrodsburg, Ky., on Oct. 4, 1888, writes as follows:

Inclosed is a sprig of wild flower. I notice that when the flower I enclose and golden-rod grow together, the bees hardly notice the latter. Can you tell me what it is? No one here can. It made its appearance very lately.

[It is one of the asters (*Aster tradescanti*), all of which are excellent honey-producers.—ED.]

The Season in Nebraska.—A. E. Maley, of Auburn, Nebr., on Oct. 20, 1888, writes:

The spring of 1888, in this locality, was cold and rainy. The bees only made a living until July, when they began to fill up the hives. Melissa came into bloom in July, and the bees soon found it, but they did not work on it as well as on catnip. Buckwheat and heart's-ease yielded well, and some colonies stored 50 pounds in the sections. Bees are in good condition for winter, with plenty of sealed stores. There are no large apiaries in this part of the country, but there are some men going into the business in earnest. I know a man about 90 miles west of here, who cleared $1,000 last year, from the sale of bees and honey.

Fall Honey Crop in Iowa.—J. W. Sanders, Le Grand, Iowa, on Oct. 23, 1888, writes:

I have met with a number of bee-keepers here, and all report no surplus honey this season until the latter part of August. Our bees began to work on the fall bloom about Aug. 20, at which time they were strong in workers, young bees and brood; so that if cold, wet weather had set in, instead of good bee-weather, we would have had a general bee-famine, for almost all were nearly destitute of honey, either in the surplus or brood-departments. It is seldom we see hives increase in weight as fast as they did from Aug. 25 to Sept. 3. In fact, the harvest continued good up to the first week in October. Previous to this harvest many had fears that they would have to feed their bees in order to have stores for winter. All are now rejoicing that we have plenty of young bees, winter stores, and some surplus. From what I can learn, I think that many got from one-fifth to one-third of a crop, while others have only a good storage for winter. Our white clover for next season looks well, and as all conditions at this time seem to be well for wintering, we hope for a good season next year.

Half a Crop of Honey.—L. Haun, Leavenworth, Kans., on Oct. 11, 1888, says:

We have had scarcely half a crop of surplus honey this year, in this locality, mainly obtained from linden and white clover. The smart-weed and other fall flowers have yielded abundantly for winter supplies.

Honey-Yield in Different Localities.—A. E. Howe, of Okemos, Mich., on Oct. 22, 1888, writes:

Are localities that yield honey in poor years better than those that yield nothing? Or are the localities that yield nothing just as apt to yield honey next year? Bees have done nothing here for two years, and the reason I ask the question is, I would like to move my bees to where I can do the best with them.

[The questions are unanswerable, because there is no rule by which to be guided. A poor locality may yield honey in a generally unfavorable season, by reason of its not being affected by the special cause of disaster in other localities. Almost a barren hillside (a poor place for bee-pasturage generally) may yield honey in its usual quantity, even when the valleys, usually depending on the rich clovers, may yield nothing, by reason of the sward having been killed by frost during the previous winter. We should prefer to risk the places having the best bee-pasturage in selecting a new location, even though they may fail once in a while.—ED.]

Moving Colonies to New Pasture.—Vet Tucker, Shelby, Ohio, on Oct. 20, 1888, gives the following novel experience:

My apiary is situated in the village of Shelby, where there are 110 colonies of bees. Thinking this field might be overstocked, about Aug. 20 I moved 4 colonies 3 miles into the country, to an unoccupied field, where there was an abundance of buckwheat, asters and golden-rod. The next day after moving I visited them, and found them all right and busy. In a week I visited them again, and they were storing honey in the sections. Two friends were present at this visit, and I gave the bees two filled sections from the center of a crate on one of the colonies, and replaced them with empty sections. At my next visit this crate was filled, and I raised it and put an empty one under it.

A few days ago I brought them home, and upon examining the honey, I found that the above described colony had filled the upper crate with yellow golden-rod honey, except the two sections in the place of those removed. These two and the lower crate contained only white aster honey. Two other colonies had gathered from golden-rod and asters, but it was somewhat mixed. On opening the fourth hive, I found only dark buckwheat honey. In this I was not able to detect even a trace of golden rod or aster honey, while in the other three, the absence of buckwheat was as marked. With me this was a novel experience. How is it with others?

Bee-Keeping in Dakota.—J. O. Hagen, Aberdeen, Dakota, on Oct. 14, 1888, writes:

I purchased 1 colony of bees last spring, and increased them to 2 colonies by dividing. I obtained only 12 pounds of comb honey, but perhaps I would have had more if I had put on the surplus sections before the harvest was over; so I cannot tell how the honey season has been this year. I believe that bees will do well here in Dakota. To day I opened one of the hives to look at the bees, and half a dozen alighted on my hand, and left their stingers there. I picked them off, and now I enclose them in this letter. Please examine them, and tell me through the AMERICAN BEE JOURNAL what kind of bees they are. My wife and I have been troubled all summer by them. She could not come nearer the hive than within 100 feet, and my neighbors have been troubled at their wells, when they were after water.

[Of course the bees were all mashed up and dead in the letter envelope. As some of them have two, and others three bands, of course they are hybrids—but they are fine, large bees, and look like good workers. —ED.]

Good Fall Honey-Flow.—Green R. Shirer, Greene, Iowa, on Oct. 22, 1888, says:

Last year my bees did nothing at all—I did not get one pound of honey, and no swarms. During the winter and spring I lost one-third of them. Bees just made a good living this season up to Aug. 15, when a wonderful honey-flow began, and the hives filled up quite fast. I extracted 600 pounds of very thick and heavy honey, of fine quality. I have besides about 60 pounds of comb honey, and the bees have an abundance for winter. I will begin the winter with 38 colonies, but 4 of them have drone-laying queens. My bees are packed with chaff for winter, on the summer stands, except one colony that I will put into the cellar. White clover is very promising for next year, and I am hoping for a good houey season then.

The Illinois State Fair, etc.—John A. Williamson, Lodge, Ills., on Oct. 15, 1888, writes:

At the State Fair at Olney, I obtained $47 in premiums. The first four on the list, which I enclose, represents the four blue ribbons—first prizes. I had the only exhibit of honey. There was pretty strong competition on bees, but I obtained all the blue ribbons except one. There is no honey in that part of the State, there being no clover or linden there, and the colonies were so reduced by the time of the fall run that they had no bees to gather the enormous crop that was furnished by heart's-ease, Spanish-needle, and other fall flowers. My own crop is about one-half of the usual yield; but I got the most of it during August and September. I kept my bees strong by feeding during the summer. My crop is 3,000 pounds from about 80 colonies. My bees are strong, and have too much honey in the brood-chambers, and being cold nights, they fairly crowded the brood-frames.

Honey from Pepperage.—Miss Dena Bennett, Bedford, O., on Oct. 18, 1888, writes:

Through some mistake, I am credited with saying, on page 677, in the "experience meeting" at Columbus, that, "A few had reported getting 100 pounds per colony from pepperage." This amount far exceeds any report I have received from Ohio this year, as being gathered from all sources. I mentioned that Mr. L. G. Reed, of Kent, O., thought that the dark honey in his locality was gathered from pepperage, instead of honey-dew, as some thought, and I asked if it was possible that the honey-dew mentioned in a good many of the reports, could have been gathered from pepperage. It was a mistake, but perhaps it was my own fault in not speaking so as to be understood, as there was more or less confusion, and I am not used to speaking in public.

Wanted—Colorado Climate.—Mrs. L. Harrison, of Peoria, Ills., propounds the following question:

Who will supply Prof. Cook with the climate of Colorado, to sow with the seed of the Rocky Mountain honey-plant, to fertilize it in order to secure a crop of honey?

[The Professor may perhaps enter into a compact with "the clerk of the weather," to transfer Colorado climate to Michigan next year, or to make some kind of an exchange in the matter. It would be useless for us "ordinary mortals" to attempt such a scheme, but between "celestial officials" and "college professors," there may appear some *media* for such an exchange or transfer. We respectfully refer the question to Prof. Cook.—ED.]

My Experience with Bees.—Isaac Harman, Robinson, Kans., on Oct. 12, 1888, says:

I obtained 2 colonies of bees last spring, transferred them, and I now have 4 colonies in frame hives; besides, one swarm left, as I supposed afterwards, by not getting the queen in the hive. They left the next day. The first swarm stored 28 pounds of honey in the sections, which sold at 20 cents per pound. I think that this country is excellent for bee-keepers, and I look forward with pleasure to the time when I can be the happy owner of an apiary, no preventing Providence.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs, and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c. R. A. BURNETT,
Sep. 12. 161 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 18@20c.; 2-lbs., 16@18c. Good dark 1-lbs., 16@18c.; 2-lbs., 15 to 16c.; fair 1-lbs, 12½@14c. Extracted white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9@9½c; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.
BEESWAX.—22@23c.
Oct. 25. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections,. 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@15c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—We quote. Fancy white 1-lbs., 17@18c.; 2-lbs., 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8½c.; buckwheat, 5½@6½c.; California extracted, white sage, 7½@7¾c.; amber, 7¼@7½c. Demand good and prices firm. New comb honey is arriving quite freely.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Oct. 10. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 11@12½c.; 2-lbs., 12½@1 c.; amber, 8@10c. Extracted, white, 5¾@6c.; light amber, 5¼@5½c.; amber and candied, 4¾@5c. Receipts light and market firm for best qualities.
BEESWAX.—Dull at 19@22½c.
Sep. 22. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white comb, 17@18c.; dark, 16c.—Extracted, 8@10c. Market bare of all kinds.
BEESWAX.—21@22c.
Sep. 24. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 4½@8c. per lb. Comb boney, 12½@16c. Demand slow, and only for best qualities.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Oct. 24. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c; dark 1-lbs., 14c.; 2-lbs., 13c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.
BEESWAX.—None in market.
Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 12@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c; light amber in same cans, 7¾c.; amber, 7¾c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.
Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The market is more active, with an upward tendency.
Oct. 25. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs. 17@18c.; dark, 14@15c.; California white 1-lbs., 17c.; dark, 14c. Extracted white 8c.; amber, 7c.
BEESWAX.—None in the market.
Oct. 11. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted in barrels, 5@6c., according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.
BEESWAX.—21c. for prime.
Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6 cents; light amber, 5¾c.; amber, 5¼@5½c. Comb, 1-lbs. 13@14c; 2-lbs., 10@13c.,
BEESWAX.—20@22c.
Sep. 24. SCHACHT & LEMCKE, 122-124 Davis St.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Nov. 7, 1888. No. 45.

EDITORIAL BUZZINGS.

A little paper and a little ink
Make thousands, perhaps millions, think.

There are over 200 bee-societies in the little State of Germany, with a membership of over 12,000. They evidently believe in "societies" there. Here in America the largest society of bee-keepers we ever had, lacked a good many of 200 members. This is not for a want of bee-keepers either, for we have 300,000 of them in America. But so many of them think that they "know it all," and that there is no need of societies for them. And as to imparting their knowledge to their less-confident or less-informed brethren—they scoff that idea!

Major Shallard, of New South Wales, is now offering in the Sydney papers, a reward of £20 to any one who produces a sample of adulterated honey, put up by him and bearing his name. This no doubt is an offset for some one who is falsely charging him with adulteration. Sometime since the Major exposed some samples of adulterated honey in Sydney, and the counter charge is no doubt a retaliation. We glean these facts from the *Australasian Bee Journal* for October, which is just received.

Sand, instead of bottom-boards, it is said in a recent work on Polish bee-keeping, is recommended and used in that country for bee-hives. It says:

The stands are prepared by raising the earth at each hive 2 or 3 inches above the surrounding level; an inch of clean, dry sand is then placed on top of each elevation and beaten down smooth and firm. Round the outside edges of the mounds some dry chips or moss is placed, and this again covered with earth well stamped to prevent insects burrowing under the hive.

The Dairy Commissioner of New Jersey, Mr. Wm. K. Newton, whose analysis of samples of honey has been doubtingly noticed in our columns several times, wrote thus to the *Bee-Keepers' Magazine* last June:

Your editorial comment on the article in the *British Bee Journal* is correct, as no comb honey was found adulterated. The heading to my article is "Strained Honey," and all the specimens were of that kind. The samples labeled on the cans and jars, "Choice Comb Honey," were merely small pieces of comb floating in a sea of glucose.

We are glad to learn that the Dairy Commissioner of New Jersey has announced that *no comb honey was found adulterated*—that the labels which read "Choice Comb Honey" were a deception, and merely referred to the small pieces of comb honey "floating in a sea of glucose!"

It would have been far better if Mr. Newton had learned something more about honey before attempting to enlighten the world on that subject. His statement in the above extract is:

The heading of my article is "Strained Honey," and all the specimens were of that kind.

But the probabilities are that *none* of the specimens were of that kind, *i. e., strained honey*—that system of breaking up the comb and *straining* the whole through a cloth having passed out of use long ago! The only thing *strained* about the matter is the implied accusation that nearly all the liquid honey on the market is adulterated! That idea is *strained!!* It is untrue in fact, and full of harm to the industry.

Taking Lessons.—A correspondent in New York asks the following question:

Is it necessary for a person who intends to make bee-keeping an exclusive business to serve an apprenticeship with a practical apiarist? If so, what is the best way to do it?

It would be desirable to take lessons in bee-keeping before embarking in the business. The cheapest way is to hire out to some good apiarist for one season, and keep wide awake to take in all you can hold, and be imbued with the theory and practice. Then by the aid of books and a good bee-paper, you ought to succeed. Almost any one having a large apiary would be glad to have your help for a season by corresponding with them in advance with some one near you, would be the cheapest and perhaps the best arrangement to make.

An Introduction to Entomology by John Henry Comstock, professor of entomology and general invertebrate zoology in Cornell University, Ithaca, N. Y. This is the title of a new book. Price $2.00. Part 1 of which is on our desk. Prof. Comstock was formerly United States Entomologist. He has spent several years in the production of this excellent work. The part published now includes the grammar of the science, and about half of the systematic part.

This work has been prepared for the use of students in Agricultural Colleges; and for private students; in fact for any one who desires to find out something about our common insects. Especial pains has been taken to describe the species that are of interest to farmers, and to indicate methods of combatting those that are injurious.

A prominent feature of the book is the use of analytical keys to enable the reader to find out the name of the family to which any insect belongs. These have been prepared with great care. Another special feature of the work is the indication of the pronunciation of the scientific names.

No pains or expense have been spared in the preparation of illustrations, or in printing the book. There are many original engravings made especially for the work. The printing was done by the De Vinne Press (the firm that prints the Century and the Saint Nicholas Magazines), and is excellent throughout.

The Golden-Rod bids fair now to become the National flower of America. It is our choice, and we believe it to be the choice of the bee-keepers of America. The New York *Observer* thus champions its cause:

It is surely high time that the selection of a National flower were made. England has her rose, Scotland her thistle, Ireland her shamrock, France her lily, and why not America have her floral representative also? There is surely no lack of flowers native to the soil from which a choice may be made.

This question has already been discussed to some extent in the horticultural journals, and several nominations have been announced. One journal has come out in favor of the pansy; another has put the trailing arbutus at the head of its ticket, others have declared for the golden-rod and the aster. It is probable that a choice will eventually fall upon some one of these four candidates.

We have decided, after long and careful deliberation, to champion the cause of the golden-rod. It is sturdy; it is independent; it is free. It is not a sectional flower. It knows no east, no west, no north, no south. It is at home everywhere; as happy and radiant when it lifts itself above the sod of a southern plain as when it nods in the breezes of a northern valley.

Neither is it particular in such matters as soil and surroundings. It can accommodate itself to almost any circumstances, and be just as sweet and beautiful in one place as another. In the pasture, in the meadow, on the hill side, by the stream, it is everywhere the same noble and glorious flower; unpretentious and simple in its attire; yet rich and strong in its beauty; modest and unobtrusive in its habits, yet not too shy and retiring. These are not all the reasons for our believing the golden-rod is entitled to the honor of being chosen as the National flower of America; time and space would fail us to recount all the virtues and peculiar qualifications of our candidate. Such as we have given we leave to the consideration of our candid, and, we hope, unprejudiced readers.

We Regret to notice that the misleading table of the Dairy Commissioner of New Jersey is approvingly copied into three bee-papers—one of them in Australia. Such is exceedingly reprehensible.

GLEANS OF NEWS.

Experiments.—It is understood that Prof. Cook intends to "hatch out" an extensive system of experiments at the Michigan Agricultural College. The money appropriated by Congress in the *Hatch* bill is to be divided among the different States, and some of the Michigan portion will be expended under the personal supervision of Prof. Cook in making experiments. Concerning what he proposes to do, the *Canadian Honey Producer* remarks as follows:

Prof. Cook stated that in 1878 they started to teach bee-keeping at the Agricultural College, Michigan. For sometime very little was done to assist bee-keepers. He urged the claims of bee-keepers, and while those in authority agreed that it was an important matter, the time had passed by without the College being in a position to do anything. His duties were too numerous to enable him to do much. Every year he had gone before the board to fight the matter, but he had been unable to secure any one but an inexperienced hand. A year ago, however, they had decided to build a larger place for bees, and enlarge the department. They had now a good building, and everything in apple-pie order. A few experiments had been conducted. They had tried pollen and not pollen for winter.

Each State was given $15,000 for experiments, and he had secured a part of this grant for experiments in bee-keeping. So far as he knew there was no other Agricultural Colleges working in this direction, and only one or two States. There were great problems which wanted working out, and he was about to give the plan of work he proposed following, and he desired the friendly criticism of bee-keepers.

He was crossing Syrian and Carniolan bees; the latter were gentle, good comb-honey builders, the former energetic and prolific, and he was receiving encouragement, and thought something could be done which would give good results. In crossing, the objections which found ground with cattle and the like could not be advanced in bees; cattle had strains followed up for generations in the way of milk or beef production, two distinct objects—whilst the objects with bees were less distinct.

With the strain of bees spoken of, he had been experimenting for five years.

He wanted to get a man to work who could spend hour after hour, down close to a hive of bees, closely observing them. That was aim Number 1. *Can I get a better bee?*

He believed next that something could be done in the direction of special planting for bees. There might be nothing in it, but he thought there was. They had a large area in Chapman honey plants and melissa. He was also trying Rocky Mountain bee-plant and pleurisy-root. There might be nothing in it, but it would be better for the country for him to try it, than for bee-keepers to try a little and each fail.

Mexico is so completely an unknown land to most people, that it is well to have a little insight into its history. "Our Neighboring Republic and its Presidents," in *Frank Leslie's Popular Monthly* for December, fully illustrated, gives a connected view and portraits of all who have been at the head of the Mexican Republic from the days of Hidalgo.

Honey at Jewish Feasts.—Mr. Alfred Neighbour, of London, in the *British Bee Journal* for Sept. 13, 1888, gives these items of interest on this subject:

I have often noticed at this season of the year that there has been rather an unusual demand for honey in the combs, the customers for the most part bearing evidence of belonging to the Jewish persuasion. This year there has been no diminution in this respect, and our supplies (being rather limited, owing to the unfavorable weather) have been largely drawn upon—which has led me to make inquiries into the cause of this consumption of honey by the Jewish people, and I find that it is on the occasion of the first day of their new year.

This occurred on Thursday, Sept. 6, being the first of the month—"*Tishri*, 5649"—and as it is a festival day, also the harvest season when most kinds of produce have been gathered, the new fruit, etc., are partaken of at mealtimes, because the opportunity admits of the *additional blessing* being said before eating the new ripe fruit. *New honey with new apples* makes an excellent *bon bouche*, and is greatly appreciated on the occasion.

My informant tells me that observant Jews, whenever partaking of food, always repeat a certain short blessing of thankfulness, and an additional one when the fruit or produce is the first of the season. Moreover, their festivals are days of gladness as well as of prayer; and in what better way can people display their pleasure and gratitude than by the sober enjoyment of the good things in season, more especially by a community who are the descendants of the inhabitants of "a land flowing with milk and *honey*?"

Bee-Keeping is taught in schools in Russia. *The Schoolmaster*, an English paper, gives the following under the heading of "A Hint from Russia:"

A new departure in girls' schools is being tried in Russia, countenanced and aided by the State. A lady has opened in a village near Kief a school where girls of the lower classes will be instructed in such branches of *petite culture* as women can profitably attend to, from market-gardening to bee-keeping. The school is to yearly grant an aid of 1,500 roubles. "Rural School Boards in England," says the *St. James' Gazette*, "might perhaps take the idea into serious consideration. The wives and mothers of a future generation of British husbandmen would probably find a practical knowledge of dairy-farming and poultry-keeping even more useful than the arts and sciences they are now encouraged, if not required, to study."

To the latter the *British Bee Journal* appropriately adds: "To this we would add bee-keeping."

Another Novel Bee-Suit has been tried in Germany, as we notice by an account of it in *Der Bienen-Vater aus Bohmen* (The Bee-Keeper of Bohemia.) It says:

A widow (Theresa Schottel) who kept bees in Mutzig, Alsace-Lorraine, was hauled before the court, by three of her neighbors, to answer charges brought against her bees. The three neighbors claimed that the bees collected on the udder of their cows and goats, that they drew out the milk, that the cows and goats, kicking at the bees, caused the bees to sting the udders, and that the udders became so swollen and painful that the milk could not be drawn. The case was decided in favor of the widow, and the complainants were obliged to pay costs. The Judge declared the charges unfounded.

Benton Queens.—We have the following letter from Australia, asking for its publication. We think Mr. Frank Benton has gone from Munich, and this may account for his non-attention to Major Shallard's letters. We publish it, hoping it will meet Mr. Benton's eye, and be thereby the means of straightening the matter out. We feel sure that there *must* be some reason for the delay of two years, and await developments. Here is the letter of Major Shallard:

GLENBROOK, New South Wales, Aug. 31, 1888.

In May, 1886, I sent Mr. Frank Benton, of Munich, Germany, £7 for six queens. He acknowledged receipt of the money, and sent one queen (which arrived dead) in the early part of the following August. Since then I have written him four letters, but can get no reply.

Mr. Benton has had my money now for two years, and I should like to see the queens. I write this in the hope that its publication will compel him to attend to the matter, as he has evidently decided to ignore my letters on the subject.

MAJOR SHALLARD.

Bees Now in Fashion.—Among the "edicts of fashion" just announced, are some very extraordinary and elaborate "fancies." A "fashion" paper says:

The ladies of Turin presented to the bride, Princess Bonaparte, a regular out-and-out "palanquin," or sedan chair of fabulous value, an exact copy of Louis XV style—panels painted by renowned artists, handles of solid gold, and pockets containing a prayer book bound in red velvet edged with gold, a bonbonniere in gold with enameled miniature, lace fan mounted in gold set with pearls, and perfumery case in gold and brilliants.

This same "faire ladye" designed the "embroidere of her bridale mantel," which was a mixture of *becs* and eagles in precious stones.

The latter reminds us of the broach presented to the Princess Beatrice, by the apiarists of England, consisting of a bee formed in precious stones — elaborate, suggestive and beautiful.

Money in Potatoes, by Mr. Joseph Greiner. Price, 25 cents. This is a complete instructor for the potato grower, explaining his new system in 40 lessons. For sale at this office.

A Wealth of Illustrations of the highest quality adorns the pages of the *American Agriculturist* for November, making it one of the finest and most useful issues of this sterling magazine ever published. The leading article describes the Lakeside farm and herd of Holstein-Friesian cattle and thorough-bred Clydesdale, Hambletonian and French coach horses. The numerous illustrations of famous cattle and horses are reproduced direct from life, without the intervention of mechanical engraving, thus making the pictures so natural and true to life as to really make a new departure in live stock illustration.

Bee-Keeping in Queensland, Australia, is thus described by Mr. D. R. McConnel, of Brisbane, in the *Australasian Bee Journal:*

I may safely say that, whatever was the condition of bee-keeping in Queensland four years ago, it is on the high road to "the most scientific American method" now. "Modern" bee-keeping is practiced by more than one can count on one's fingers, and yet there are not many bee-keepers in Queensland. We formed a Bee-Keepers' Association last August, 1886, at the annual Agricultural Exhibition in Brisbane, which numbers over 30 members. We have monthly meetings, to which some of us travel over 60 miles, when papers are read, new and old methods discussed, and much business arranged. We have induced the National Association to multiply by four their entries for exhibits under Honey, Bees and Bee-Keeping materials; and we appoint one of the judges for the show. Our improvements, to be taken in hand at once, are the commencement of a museum and a library. We intend also to ask the Government to make arrangements for sending bees by post, which is now impossible. So you see we have not "died ere scarcely born."

It has been remarkable that while you were complaining of the drouth, we had our season almost spoilt by wet. We had had a drouth before that for four or five years; and the rain will have done good for the next season. I am not sure how much of our crop, mostly from eucalypti, depends on the rainfall. Clover, of course, fails certainly without rain; but these gum trees of ours do not seem to mind how dry the ground is. Indeed, some varieties never bloomed at all last year, apparently because the rain came when their flowers should have opened.

Now that we can organize our work and observation through the Queensland Bee-Keepers' Association, we hope to be able by and by to present a complete report of the different times of flowering, and the value of our honey trees.

Robbing.—Many inquire as to how to know when bees are robbing, and how to prevent it. The *Rural Canadian* says it knows it in this way:

When robbing is going on in the yard I generally know it without going into the apiary. An occasional stray bee will come into the office where I am writing. The hive attacked is closed with a wire screen, to give ample ventilation. If but few bees have got at it, I manage to kill them with a piece of thin, wide board.

After the bees once become engaged in robbing, they are of no use in the apiary, as they will continue to steal during the rest of their lives, and the sooner they are disposed of the better. If much robbing is going on in the apiary, the thieving colonies should be found and removed to a new location, at least a mile away. By sprinkling flour on the robber bees as they leave the hive being robbed, they can be easily traced to the stand where they belong. I have often broken up a colony which were robbing by blowing tobacco smoke in their hive. When this is done, care must be taken that the other colonies do not turn to and rob the one that has been doing the robbing.

The *American Apiculturist* remarks as follows as to the danger and the remedy:

Care should be taken in season to prevent robbing in the apiary. The most danger is during the first few days after the honey-flow ceases. The bees at once commence to look around for the weak colonies, or any exposed sweets. Keep all honey out of reach and smell of the bees. Should the bees get into the bee-house, the best plan is to fasten them in. Let out just before it is too dark for them to find the hive. This will do more towards breaking up robbing than any other plan I know of. A few bees will return in the morning, but they will soon become discouraged and give it up.

Buckwheat Honey.—On page 563 Mr. S. J. Youngman asks these questions: "I have observed that the buckwheat bloom yields no nectar in the afternoon in this vicinity. Is this a characteristic of the plant throughout the United States? Are some varieties better than others to yield honey?"

Several have replied already, stating that they never have seen bees working on buckwheat later in the day than noon. Mr. H. M. Seely, on page 629, says: "When we have a hot, damp and cloudy day, it yields nectar all day; all other times only in the morning. It has not yielded very much this season."

Now the editor of the *Canadian Honey Producer* gives a plausible reason for its non-yielding of honey, in these words:

Honey is secured from buckwheat generally until about 10 or 11 o'clock. The reason is that it requires moisture and secures it from the dew. If there is no dew, there will be but little honey in the buckwheat. Again, if we have a cloudy day and light showers, there will be buckwheat honey in the blossoms all day. Such a day we had lately, and one colony gained 10 pounds that day.

Honey at Fairs.—Concerning the awards made by judges at Fairs, Mrs. L. Harrison makes these comments in the *Prairie Farmer:*

State, district and county fairs are great educators of the people, and whether it pays financially or otherwise, bee-keepers should make an exhibit of honey, wax and bees. I am sorry to say it, but I could not make a creditable exhibit this fall—no, not even buy it, in Peoria. Some exhibitors make a great mistake in exhibiting only white honey. Fair exhibits should embrace all the honeys of the locality, from apple bloom to fall flowers, whether it is white, yellow or brown, both in comb and extracted, and in marketable shape.

Committees at Fairs many times have a mistaken idea of what constitutes excellence in honey, wax and supplies. It is not possible for them to be posted on all commodities upon which they must pass judgment. At one of the Illinois State Fairs held at Peoria, a large glass vessel, filled with comb honey, which took the bees two seasons to fill, and was consequently much travel-stained by the bees, was awarded the "blue," while rich, white honey, in good marketable shape, was unnoticed. This dripping, daubing mess was a curiosity, and consequently was awarded the "blue."

The second premium on honey at the same Fair was given to a confectioner's jar of "strained" honey. The second award was to be given to extracted. The lady who exhibited it, said: "It was nice honey when I strained it, and I do not know what makes it so cloudy." There was on exhibition at the same time a gross of nice, white extracted in Muth's honey-jars, tin-foiled and labeled. Honey-dealers or disinterested bee-keepers should be excellent persons to have on an awarding committee of honey.

Candied Comb Honey.—The question is often asked, "What can I do with honey candied in the comb?" Mr. Will M. Kellogg, in the *Bee-Keepers' Magazine*, describes his plan thus:

I had about 20 cases of 6-inch extracting combs that I had to leave for some time for lack of time and storage room, and when I came to extract it, I found it candied solid. It was fine, clean white comb, filled with clover honey, and I hated to lose it. I cut the combs out of the frames, laid one at a time on a clean, smooth board, and cut it up fine with a chopping knife, then placed it in a large tin can over a slow fire, and carefully melted comb, honey and all.

When it was thoroughly melted I set the can to one side until cold; then the wax having risen to the top, I peeled it off of the honey and threw it into the wax extractor; rewarmed and strained the honey, and I had several pounds of nice wax, and over 300 pounds of as fine, thick honey as an expert ever smacked his lips over. So I received over $50 for my batch of candied comb honey.

Never Strike at a Bee.—A good illustration of the correctness of this advice is shown by Mr. E. S. Arwine, in the *Pacific Farmer*, who gave his experience as follows:

About 38 or 40 years ago, when I was 8 to 10 years old (I have been used to bees from childhood), I held up a leafy bush for the swarm to cluster on, while tin pans, bells, and two sea-shell horns were making the sweet music of bygone days, to induce the bees to cluster. After circling around about the usual time, a prime swarm began to alight on the stem of my bush, on a level with my head; and as the cluster-call sounded, the bees poured in all over my shoulders; then my hat brim dropped down over my face. I dropped my bush, took off my hat and laid it on the bush, and moved out pretty quickly, with a pint or so of bees on my arms and shoulders. I do not think I got a sting, but the swarm clustered on my old hat. Moral: Never strike a bee.

We Want 20,000 subscribers. Out of the 300,000 bee-keepers in America, certainly this is not an extravagant desire! It is only one out of every fifteen! We confidently ask those who appreciate the AMERICAN BEE JOURNAL, to show it by sending us one or more new subscribers. We will give them full value for their money.

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ There will be a meeting of the Susquehanna County Bee-Keepers' Association at the Court House in Montrose, Pa., on Saturday, May 4, 1889, at 10 a.m. H. M. SEELEY, *Sec.*

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee-keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The Marshall County Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Friday, Nov. 16, 1888, at 10 a.m. All bee-keepers are cordially invited to meet with us, and bring along anything that they may have that will interest or benefit apiarists. J. W. SANDERS, *Sec.*

☞ The Alabama State Bee-Keepers' Association will meet at 10 a.m. on Wednesday, Nov. 14, 1888, at the office of the Secretary of the State Fair (in the Fair Building), in Montgomery, Ala. Members are urged to attend, and all persons interested in bees and honey are cordially invited.
J. M. JENKINS, *Sec.*

QUERIES & REPLIES.

Moving Bees in the Fall of the Year.

Written for the American Bee Journal

Query 586.—Is it safe and practicable to move bees in the fall, when the frames are filled with honey, either on wagons or shipped on cars?—Minnesota.

Yes, with ordinary care.—H. D. CUTTING.

Yes, but not great distances. The spring is the proper time.—DADANT & SON.

It is not so good, but with proper fastening of the frames it can be done. —G. M. DOOLITTLE.

I move them on a wagon every fall and spring. I moved 184 colonies this fall.—C. C. MILLER.

When the hives contain only old combs, yes. When they contain new combs, no.—M. MAHIN.

With care, it is safe to move them by either conveyance.—MRS. L. HARRISON.

I should dislike to do so after the weather was too cold for the bees to have a good flight.—EUGENE SECOR.

Yes, if you exercise care regarding "jars and junks." In every respect, except the weight of the combs, fall is the best time, provided the bees have a good flight after removal.—JAMES HEDDON.

It is safer to move bees in the fall, if the weather is not too cold, than in summer. Where the necessary precautions are taken, it is always practicable.—P. L. VIALLON.

Much depends. Should the frames be wired, by exercising great care in their preparation, and in driving, they may be successfully moved.—J. M. HAMBAUGH.

That depends upon the size of the frames and on the combs. If frames are large and not wired, and the comb new, they could not be safely moved without extreme care; while with small or medium-sized frames, well wired and full of comb in which brood has been reared for several years, they could be safely moved.—R. L. TAYLOR.

Yes, if carefully done. If the combs are old or wired, they will be less likely to fall out and do damage. If the bees are in movable-frame hives, the frames ought to be fastened.—A. J. COOK.

It can be safely done if care is used. The frames should be securely fastened so that no swing will be allowed. I find it fully as safe to move bees in the fall as in the summer. Ample ventilation should be given—J. E. POND.

There is a little more danger attending the shipment of bees when the combs are filled with honey; but if the honey is sealed, and the frames are secured in place so that they cannot jostle about, the hives can be shipped safely either on a car or wagon.—G. W. DEMAREE.

It is both safe and practicable. I have moved and shipped hundreds of colonies with frames filled with honey. If the frames are well propolized they will go short distances by rail or spring-wagon without extra preparation; but if the journey is long, with re-shipments, the combs must be secured with wired sticks, and the frames securely fastened at the top and bottom.—J. P. H. BROWN.

Yes. If on a wagon, a hay-rack is a good bed to put them in. The frames should ride crosswise, as the most "shake" is crosswise. On the cars the frames should ride lengthwise, so as to suffer the least "bump" from the cars. Frames on metal bearings need to be fixed in the hives so that they cannot move in the hive body. Those that have been used in wooden rabbets one season are usually firm enough.—J. M. SHUCK.

The spring is the best time, when there is but little honey in the combs, but they can be moved in the fall, when the combs are properly secured, and it is not too late for the bees to have a good chance to fly afterwards. Old combs are preferable if the distance be a long one.—THE EDITOR.

Hiving Swarms on Full Combs or on Foundation.

Written for the American Bee Journal

Query 587.—Are frames filled with comb better on which to hive new swarms, than frames half filled with foundation?—I. R.

Yes.—M. MAHIN.

Yes.—MRS. L. HARRISON.

My experience says, yes.—G. M. DOOLITTLE.

Yes. I would prefer the combs every time.—J. M. HAMBAUGH.

Sometimes they would be better, but probably not if comb honey is the object.—R. L. TAYLOR.

If it is desired to extract from the brood-frames, yes. If not, no—an *immense* NO!—J. M. SHUCK.

To a certain extent it would depend upon your method of work. For extracted honey, I want all the filled frames I can get.—H. D. CUTTING.

Yes, undoubtedly, if the combs are *worker-combs*, and not too old and dirty. Frames half filled with foundation would incite bees to build drone-comb.—DADANT & SON.

I think that I can do better with full combs. Others may do better with half empty frames.—C. C. MILLER.

I prefer to hive swarms on frames filled with comb, alternated with frames filled with foundation.—J. P. H. BROWN.

Yes, in any case if working for extracted honey; and if for comb, yes, if you properly contract the brood-chambers.—JAMES HEDDON.

Yes, but not better than full sheets of foundation on wired frames. Hiving swarms on frames half filled with foundation is not very practicable, unless wire is used.—P. L. VIALLON.

That depends upon the management. For extracted honey, yes, much better. For comb honey I prefer hiving swarms on starters merely. See my last edition of the "Bee-Keepers' Guide," or Hutchinson's book on "The Production of Comb Honey."—A. J. COOK.

That depends. If worked for extracted honey they might be as good, as, if a sudden flow of honey filled the combs and cramped the queen, you could extract. For comb honey, I should just as soon have the latter.—EUGENE SECOR.

It depends altogether upon the time when they are hived. If in the swarming season, I should prefer the foundation; and in any case I should want empty cells enough to give the queen ample room for egg-laying.—J. E. POND.

In my experience, yes. But proper management has much to do with the final outcome. I hive my swarms on empty combs, and put on the surplus cases immediately, if I have queen-excluders to put over the top of the brood-chamber; otherwise I wait until the queen has begun to lay, say two or three days before I put on the cases. In this way my bees indulge their inclination to build combs in the surplus cases.—G. W. DEMAREE.

If it is intended to extract the honey from the brood-frames, good worker combs will be preferable to frames that are only half filled with comb foundation, because the bees may fill the other half with drone comb. —THE EDITOR.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

CORRESPONDENCE.

AUTUMN.

Now Ceres roams her laden leas
And sounds her golden horn,
To be answered by the harvest bees
And laugh of tasseled corn.

Over the red and yellow leaves
When smiles the silvery morn,
Light she glides to her bearded sheaves,
By berry bush and thorn.

And hills are lost in purple haze,
While trees are talking low
About the mellow autumn days
And nature's afterglow.

COLOR AND BEES.

Instinct and the Color Sense in Bees.

Written for the American Bee Journal
BY PROF. A. J. COOK.

I am sure I am in no wise peculiar among bee-keepers, in my pleasure and admiration in reading Mrs. Chaddock's articles. Her piquant style and usual good sense, and accuracy, almost always serve up a meal which delights us all. But is she so happy in her article on page 700? She says, "Color is no guide to the insect world." How does she know this?

I believe that color is an almost universal guide to insects. Nay, more; I think that I know it.

It is the almost universal opinion of scientists, that the color of flowers was developed especially to attract insects; this, of course, for the flowers' good. Lubbock's experiments, moreover, prove beyond a doubt, that bees are guided by color. He placed honey on slips of different color. A bee was attracted to the honey on a yellow strip. The bee loaded and left. While away the great statesman changed the place or positions of the slips. The bee soon returned, and to the yellow, though in a changed position. The thing was tried over and over with the same result. I have confirmed the truth by similar experiments.

Bees do visit flowers for the pollen and nectar; but they are attracted to the flower by color and odor, which, I believe, were developed especially to attract the bees, for the good of the flowers.

Mrs. C. says, again, that bees work entirely by instinct. She also says that insects cannot reason. How does she know this? I believe that bees and other insects do reason. I think that they are intelligent, and can learn. I think that I know this. As Mrs. C. says, "We all know that insects do not reason," the burden of proof rests with her. I know that habit is very strong with insects; I feel equally sure that they *do reason*.

Agricultural College, Mich.

HISTORIC.

Remarks upon the Origin of the Honey-Bee.

Written for the Bee-Keepers' Magazine
BY C. J. ROBINSON.

The date when honey-bees first existed is wholly unknown and past finding out, and their first appearance on the globe has not been explained in history. No indications of the existence of bees have been found in the rocks of the cretaceous period, nor has the fossil remains of bees been discovered in rock or earth deposits of any period.....

The busy bee seems to have claimed greater interest from the ancients than they acquired in modern times. It is certain, however, that the great interest taken in bees from the earliest times is reviving among us with no common force since the publications of John M. Weeks, Father Quinby, Mr. King and others. The great interest in bees has arisen chiefly from the marked resemblance which their modes of life seem to bear to those of man. Remove every fanciful theory and enthusiastic reverie, and there still remains an analogy far too curious to be ratified with a passing glance.

On the principle of *nihil humani a me alienum*, this approximation to human nature has ever made the favorites of their masters. And theirs is no hideous mimicry of man's follies and weaknesses, such as we see in the monkey tribe. Their life is a serious matter-of-fact business, a likeness to the best and most rational of our manners and government, set about with motives so apparently identical with our own, that man's pride has only been able to escape from the ignominy of allowing them a portion of his monopolized reason, by assigning them a separate quality under the name of instinct.

It was the equal of Solomon Virgil who said: "The complicated and wonderful economy of bees can be referred to naught else than the direct inspiration of the divine mind." But we, from all that has been said by eminent men, should not forget the real services achieved in this as well as in every other branch of knowledge by the encyclopedist Aristotle, the pupil of him who was distinguished as the "Attic Bee;" or the Life of Aristomachus, devoted to this pursuit, or the enthusiasm of Hyginus; who more than 1,800 years before the Rev. Mr. Cotton collected all the bee-passages which could be found scattered over the pages of an earlier antiquity.

Varro, Columella, Celsus and Pliny have each given in their contributions to the subject, and some notion may be formed of the minuteness with which they entered upon their researches from a passage in Columella, who, writing of the origin of bees, mentioned that Euchemerus maintained that they were first produced in the island of Coz, though Euthronious asserted they originated in Mount Hymettus and Hicander in Crete. Considering the obscurity of the subject, and the discordant theories of modern times, there is no branch of natural history in which the ancients arrived at so much truth.

Concerning the antiquity of the *Apis Mellifica* family, we are only able to trace its existence through past historical ages. The primitive natives of Egypt did not record what transpired or was known to them. The most ancient memorial matter that is known was chronicled by the priests—*literati*—who engraved certain characters called "hieroglyphics," which indicated certain meanings understood by the priests. It was called *skohia en neter en neter tur*, picture writing, or writing in sacred words. In the Egyptian dialect the picture of a hive bee represented Lower Egypt, restricted to the island in the Nile at its confluence with the Mediterrean Sea, and called by the Greeks the Delta.

This symbolizing of the honey-bee affords us the remotest data of its existence, and points to the whereabout of their origin or first appearance on earth. I have made research, and have become satisfied that priests of primitive Egypt had knowledge of the birth place of the original progenitors of the honey-bee race equally as certain as the shepherds had of the place called Bethlehem.

With the ancient Egyptians the picture of a queen-bee was the emblem of royalty; this is evidence that Lower Egypt, the Delta, was the sovereign mother country, anterior to all Egypt, becoming one kingdom under Serostris. If, as is claimed by eminent historians, Lower Egypt was the cradle of the primitive Israelites who were the uncles of the subsequent mighty nation of Nineveh and Babylon, from whose loins the world is peopled, may we not logically conclude that the original nursery of the hive-bee, though called an *insect*, living in common like men, each one doing his part for the good of all, was in the Eden of the Israelites, where the landscape is a beautiful plain unadorned with "hills and shrubs?"

If we study the monumental records of early times in Egypt, we may reach back to the dawn of beedom. Egyptian rulers seemed to place their chief glory in rearing monuments for posterity. Their temples and pyramids were the grandest in the world, but the obelisks, an Egyptian invention, became the principal ornaments of all countries. On the planes of these stone pillars were inscribed the memorials of antiquity, the only data of earlier times.

According to eminent Egyptologists, the obelisk taken to Rome, standing at St. John Latern, is over 4,200 years old. The obelisk (Cleopatra's Needle) standing in New York city, is inscribed with memorial data in prehistoric times. No interpretations of the inscription, so far as I can discover, relates to bees, yet I believe they are represented. We fail to fully appreciate that we have in the city of New York such a treasure of antiquity—the obelisk. We but faintly realize that Moses and Aaron, Father Abraham, the Prophets, Alexander the Great, and great personages—antique Hebrews, Israelites, Greeks and Romans, and, quite likely, the Divine Redeemer, have stood near this obelisk and read, or tried to decipher the inscription.

In Egypt and everywhere honey-bees in their natural state take up their dwelling in trees, logs, under stones, and in clefts of rocks. The expressions of Moses and of the Psalmist, "Honey out of the rocks," is proof that the habits of the busy bee has ever been identically the same.

The early part of Egyptian monumental history was covered with the arrivals of Abraham and Joseph, and the exodus of the Israelites, and we can only get a glimpse of what was the state of the world at that period from Biblical literature, from which we learn that bee-keeping had ever been a principal branch of their domestic pursuits.

What aliment, if any, Adam subsisted on, before his unfortunate disobedience, we are not informed, but milk and honey is the food first mentioned; hence we are in possession of evidence that honey-bees were coeval with man's appearance on the globe—created with and for his purpose, else God would not have mentioned honey as the food for His chosen people, yea, He furnished honey as a special blessing to His eleet.....

We find the honey-bee first on the Delta in Egypt, and it is probable that the original nuclens, or the colony Noah put in, multiplied and spread up along the valley of the Nile; also eastward over the Isthmus of Suez into Syria, and along the eastern coast of the sea, and crossed to Cyprus, Greece and Italy. Wherever people migrated bees were taken, for they were the first domestics on which mankind were dependent for a living.....

Like other creatures, bees show different marks; but the difference is not radical—only a divergement within the bounds fixed by the hand of nature. We know of no type, breed or strain of bees that is constant in reproducing, identically, progeny after its progenitors. This fact settles the claim that bees have but one origin common with all of every name and nature. The differences observed comes about by reason of different geographical influence, or by accident—freak or physical nature. Color is not organic in living creatures. Color of epidermis (skin) and its appendages (hairs, roots, etc.) is the creature of accident; dependent not on constitutional element of speeies, but on the secretive functions of the skin, an aberation more or less common to all creatures—fickle as the color of the clouds.....

Presumably the orginal type has at some remote periods, diverged somewhat, yet identieal in attributes which are enduring and constant as are the planets in their respective spheres. I think the Oriental bees, perhaps by reason of congenial climatic influence, were and are more through long periods in rigorous climates. Color seems to be more uniform or fixed, and the type reproduced more closely by the native bees of the country about the Mediterranean than elsewhere. This circumstance indicates that climatic influences incident thereto subject bees to what is called freaks of nature.....

In my research I found one item in sacred history that tells of the original home of the honey-bee. The Prophet Isaiah explained to the people that the Lord would punish people for their disobedience by introducing armies into their country and compare the armies swarming among the people like bees swarming among flowers. "The Lord shall hiss (whistle) for the fly (bee) that is in the uttermost part of the rivers (Nile) of Egypt, and for the bee that is in the Land of Assyria." chap. vii: ver. 18. (The words fly and bee mean the same. Rivers refer to the lower branches of the Nile, and "hiss," in the version, means whistle.)

The Prophet illustrated the idea of armies by alluding to a tradition common among the people of the Orient, which was superstitiously believed that the proprietor of an apiary by one hiss or whistle could summon all the bees to the village, and by the same signal conduct them into one bed or field of flowers; that is, the bee-master could, by the signal, call all the bees from two countries into one locality making the number fearful, and the idea that the Lord's armies compared in hosts with the myraids of bees must strike terror. If the Prophet wrote by dictation of the Omniscient, he could not mistake the locality of the bee, 1st, Rivers of Egypt, 2d, Assyria.

The foregoing is my version of the subjeet, independent and alone. Perhaps I am one who can never rise into the region of essayist, but formed to plod on the lower levels of thought, unpossessed of the pinions necessary to reach the heights, and cannot realize the mental act by which a man of genius reaches a conception which unravels and illuminates the tangle of centuries of observation.

Richfield, N. Y.

WINTER REST.

Immediate Work of Preparing Bees for Winter.

Written for the Farm, Field and Stockman

BY S. E. MILLER.

I prefer to have them in shape so as to not have to meddle with them after the honey-flow has ceased, for there is a vast difference between handling bees during honey-flow and after it has ceased. I have had Italians just as gentle as any one could wish just before the frost, which were just the reverse when the honey-flow was cut short by frost. Therefore, if you wish to avoid robbing, stinging and trouble in general, get your bees in shape before frost comes. Of course I would not advise closing the bees up for winter while there is still a chance of procuring surplus honey, but with the present signal service arrangements, we can tell pretty nearly when to look for frost, and thus have our bees in shape for winter, and still not lose more than a few days that might be devoted to the storing of surplus honey, and even if the flow does continue a few days after you have them prepared, they will make room for it somewhere. I must describe

The Chaff Division-Board

or dummy, and the chaff cushion which are two of the great essentials to successful wintering. The division-board is made as follows: Make the frames the same as you use in your hives, only, instead of the ordinary width, make them about an inch and a half wide, and on each side nail boards about ¼ of an inch thick, thus forming a complete box, only before nailing on the last side, fill it with dry chaff or chopped straw. Before nailing on sides, however, you should fasten a strip of strong cloth on the

outside of the ends and bottom-bars of the frames, leaving slack enough in the cloth so that when filled with chaff it will bulge out enough to cause the frame to fit snugly against the sides and bottom of the hive.

The chaff cushion is simply a square sack as wide and as long as the inside of your hive, and about 4 to 6 inches thick, filled with chaff. Care should be taken, however, not to fill it too full, for if too full it will assume a rounded form, and not fit down as well on the frames.

With two division-boards and one chaff cushion for each colony, you are ready to go into the apiary. If your hives are two stories high, remove the upper story, and remove from the lower story enough of the frames to admit of a division-board on each side, which will generally be three. Thus, if you are using a ten-frame hive, it will have room for seven frames of brood and honey between them. Place the frames containing the most brood in the center, and those having the least, or none at all, next to the division-boards. Care should be taken to allow the necessary amount of stores, which should be from 20 to 25 pounds of well-ripened honey. Should there not be bees enough in the hive to pretty well crowd seven frames, remove one, two, or three more frames, and move up the division-boards so as to allow no unoccupied space. Should there not be enough bees to cover well four Langstroth frames, or their equivalent, I prefer to unite them with another colony.

Should you have frames containing brood that are not needed in some colonies, you will most likely find a place in another colony where they can be used to advantage. After you have the frames and divison-boards arranged as described, place the enameled cloth over the frames, put on the second story, and put in

The Chaff Cushion,

being sure that it fits down well around the sides, then put on the cover, and do not bother them until some warm day in February, when it might not be amiss to peep in and see how they are getting along. I forgot to say that before placing the cloth over the frames, you should lay two sticks about 3 inches apart, crosswise of the frames. The sticks should be an inch or more in thickness.

This will allow the bees access to any frame in the hive by passing over the top.

See that each colony has a young, healthy queen, before putting them away. I should not like to try wintering colonies that have queens over two years old.

The more bees you have in a hive when prepared for winter, the surer you are of success (at least that is my experience), even if some of them are crowded outside for a while. Should your bees not have enough stores to winter on, you had better feed them. Instead of putting on the chaff cushion I would use a feeder in the upper story, turning the enameled cloth back a little at one end, to allow the bees access to the feeder.

CONGLOMERATION.

Written for the American Bee Journal
BY G. B. OLNEY.

May the A. B. J. ever shine
Through all the coming time,
With light and life a-beaming,
Like gold and silver—no dreaming;
But sure protection to a union
All o'er the land a-roving,
Their legal rights construing
In a mild way, but ruling
Still but deep—no fooling.

Arkadelphias without number
Will only find they've made a blunder,
To attack an industry as old as time;
With grape-culture and Arkadelphia fine,
It's only wasting time—
There's a "Union" just behind.

From over hills and many hollows,
Comes gleaming forth the single dollars,
Shouting aloud in bold, defiant power,
Steel-pointed shells at their glistening tower.
They fairly conceive why the land is ours,
And all must "get" from the "land of the free"—
No place here for even the honey-bee.
"You're a 'nuisance,'" but your not to blame—
Bright Arkadelphia gave the name.

Oh, how sweet and euphonious is the sound,
Claiming the honey-bee in any town
Is the greatest "nuisance" ever found.
Arkadelphia—your only a name.
A bursting bubble for public fame.
More 'artificial comb made of paraffine,"
"Scientific pleasantry" now it is time
To crawl into your holes, recall the fine,
Quick to hide and get behind.

Olney, Iowa, Oct. 15, 1888.

NIL DESPERANDUM.

The Failure of the Honey Crop in England.

Editorial in the British Bee Journal,
DATED OCT. 18, 1888.

We are right in presuming that the bulk of our readers in Great Britain are amateur bee-keepers, who do not depend upon honey-raising for a livelihood, therefore to the majority, first, a few words of comfort may be fitly addressed now that the season of 1888 is ended.

One of the great recommendations of this pursuit, one of the principal reasons for the growing popularity of our hobby, has been that *it pays;* this has been proved over and over again, the question has only been one of doubt as to whether or not one could, in our fickle climate, devote the whole time to bee-keeping and obtain a living by it. On this point the consensus of opinion is that bee-keeping should be combined with some other occupation, such as fruit or poultry farming; alone it could not be recommended. The occurrence of a disastrous succession of fruit, clover, and heather crops, such as we have experienced this season, but adds weight to the advice we have repeatedly given in these columns in answer to inquirers who have thought of making a business of bee-keeping *per se.* Keeping bees will then pay, because we have more strings than one to our bow, and a single bad honey season does not mean disgust followed by collapse.

"'Tis not in mortals to command success,
But we'll do more, Sempronius: we'll deserve it."

So let those with whom our bee-keeping is but an agreeable pastime, a true labor of love, take heart of grace, and, with true British courage, fight the harder the more we seem to be surrounded with difficulties. It is only by such an exhibition of pluck that we can show our so-called love for bees and bee-culture to be a sterling feeling and not an empty sentiment, lasting only so long as the *couleur de rose* of the hobby—only so long as lasts the golden light gleaming through well-filled honey-jars.

Quite a number of proverbial sayings spring into the mind when we urge our readers to have "a patient continuance in well-doing;" this, by the way, being only a more ancient way of telling us that "Everything comes to him who knows how to wait." (We will allow the cynic to get in his jeer edgeway, that "whilst the grass is growing the horse is starving.") We have often found "the darkest—the coldest hour, the one before the dawn;" we have found, too, the mere *effort* to "take arms against a sea or troubles," as Shakespeare tells us, "and by *opposing* end them." Who has not felt braced up by a firm determination to get comfort out of disaster by sheer force of will? Why, the oldest amongst us—old stagers, the steady coaches whose wheels have placidly revolved with the years in an uneventful round of monotony—the monotony of mere routine, these can remember how many of the happiest passages in life have been developed and perfected when there has been no single gleam of hope on the horizon, all dark and dismal everywhere.

Be sure we may find much pleasure in sympathizing with such of our fraternity as have found the year's transactions a loss, all too keenly to be felt perhaps; we can try to infuse into them a little of the spirit of Mark Tapley, who played "Away with Melancholy" on a one-keyed flute. We recently saw a couple of bee-keepers returning from the moors with a waggon-load of hives, plodding through a drenching rain for eight miles on a black-dark night; one of them wheeled a broken tricycle, and both were as

happy as sand-boys, wet to the skin as they were, bringing home a dozen hives from which they had not taken a single pound of honey during either clover or heather harvest—on the contrary, they had been forced to feed the bees. England is not in danger (not even of a decline in bee-keeping) so long as we have hearts of this mettle in our midst. Truly, nothing can damp such ardor, and a mishap only makes them "thankful it's no worse," sheer animal nerve carries them through breakers into the smooth waters of contentment.

Our warmest sympathy is offered to those in the trade who have pluckily launched out in the effort to live by combining bee-keeping with the making of appliances used in the craft. These have had blows with a two-edged sword:—their own bees have earned little or nothing, and there has been very little demand for hives, sections, extractors, and other requisites of the bee-garden. It would be, we believe, a recompense to the trade, if those who have the means would, next season, purchase, instead of making for themselves, such articles as they can. The goods are now-a-days very cheap and well made; competition has given us many things at low rates, so that it would pay us in the long run to keep the competitors in the field until brighter days come, as come they must, when they and we may be repaid for the privations and pinches one has to pnt up with in such a year as 1888.

The Past and Future.

After such a summer (?) as the bees have passed through, it behooves every bee-keeper to see that a disastrous season is not followed by an utter collapse of his army of workers—workers who, unfortunately, have not had the opportunity to store either for their masters or themselves.

Already we hear of many colonies dying of starvation, and not a few skeppists declare their intention of feeding no more, as they have already fed all the summer in the hope of a turn for the better, and now the bees must go to the wall. Of course this is only false economy with sugar at present rates. Take, for instance, a common skep, well stocked with bees, and hardly an ounce of food. Rather than let them perish, suppose we give them 15 pounds of syrup, which, at the outside, will cost not more three shillings. With a fair prospect of wintering, the following season such colony will be worth at least 15 shillings, without counting its swarm, and almost certain crop of honey. Is there any question about feeding being a good investment?

The oldest bee-keepers do not remember such a honeyless season as we have just experienced, and it is more than probable that the present generation may not see another such. Apiaries of fifty to one hundred colonies have not given a surplus in total of one hundred pounds; skeps have been "taken up" by the score, and not a half-a-dozen pounds of honey have been secured. Many bee-keepers have had to feed through the summer, while it has been the exception to find some favored locality or apiary where the bees have managed to get a living all the time. Such we know of where a small surplus has been given, and some have even stored themselves for winter during the warm spell of weather experienced in September.

The past summer has been remarkable in that not a single honey-glut occurred while the main crops were in bloom. We have, of course, experienced poor seasons, but with the present exception we do not ourselves remember when there was not at least one honey-glut, whatever the prevailing weather may have been.

INFLUENCE.

Written for the American Bee Journal
BY EUGENE SECOR.

When the dark Lethean waters,
And the silent mists of ages,
O'er our memories thickly gather,
In the stilly realm of Death-land;—
When no more our names shall quiver
On the lips of friend or kindred,
Whether good or whether evil
We have taught by our example,
It shall live—it dieth never.
When decay earth's classic structures,
When their marble pillars molder,
Then the influence we've exerted
On the lives of fellow mortals,
May retain its wonted vigor—
May its proper fruit be yielding.

Forest City, Iowa.

THE SOUTH.

Hints about Seasonable Work in the Fall.

Written for the Southern Cultivator
BY J. M. JENKINS.

This month, in the South, is the proper time to see that all colonies have plenty of stores to take them through the winter. If any are short of honey in the brood-nest, we can probably find others that have more than they need for their own use, and we can take one or more frames from them and give to those that have not enough for winter.

As to how much honey is needed to winter a colony depends upon circumstances, mainly upon the size of the colony. It is best to be on the safe side, and allow them more than enough. I give my bees 20 to 30 pounds per colony. This weight is guessed at by estimating the number of frames full of honey in the brood-nest, and that a full Simplicity brood-frame will average five pounds; if we are short of honey, and have to feed, we can use extracted honey or sugar syrup for this purpose. The latter is easily prepared by pouring boiling water on twice its weight of cheap sugar. It is not necessary to cook it.

In the North, where bees are confined for months, it is necessary to use the best and purest sugar. In the South, where they fly nearly every fair day in the year, they are safe with any food they will eat.

In this locality, and in many others in the South, the "bitter weed" that spoils the milk in the spring, abounds and yields honey from about the first of August until frost, and although the honey is too bitter to eat, it answers admirably for our bees to live on through the winter. As it does not bloom before the beginning of August, we can make it a point to take all the honey from them before it blooms, and let them fill up their brood-frames with this bitter honey.

Many different feeders have been invented, some of which are complicated and costly, but I have found the "Simplicity feeder" sufficient for all purposes—its cost is only five cents. The little wooden butter plates used by retail grocers, are as good as anything, perhaps, and can be had for nearly nothing. To use these feeders we place them in the upper story, after the sections have been removed, directly on the brood-frames; put enough of them in a hive to hold 5 or 10 pounds of feed. Place the feeder in position while empty, and with a sprinkling pot with the sprinkler removed, or a coffee-pot, pour the feed into the feeder, and cover all with the enameled sheet or quilt used for covering the frames. This retains the heat of the hive, and is essential as the bees would not leave their cluster in cool weather to carry the food below.

With an assistant to handle hive covers, it is very little trouble to feed in this way. The best time to feed is after sundown, so as to avoid robbers. Be careful to spill no feed—not a drop—outside or on the hives, or leave any exposed anywhere that a robber may get a taste the following day. Be sure that no hive has a crack or other opening except the entrance that will admit a bee, and the entrance had better be contracted to a small one, especially if the colony be not strong.

Bear in mind that you cannot be too careful while feeding, for if robbing is commenced you may have trouble.

Wetumpka, Ala.

UNITING.

Some Practical Hints about Uniting Bees.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

Bees, that are to be united, should be brought together after they have ceased flying at night, and placed side by side, and on top of each other, and boards placed in front of the entrance, to attract their attention, so that they will take their bearings. When their location is established, they are ready to be united. All but one queen should be removed; if left, they will cause fighting, and all might be destroyed in the fray. Puff a little smoke into the entrance, so that they will load up with honey, and be on their good behavior, and then proceed to business. Take all the combs containing brood and place them together in a hive, and all others in a comb-basket or some other receptacle, where bees cannot get at them to rob.

Place the hive containing the brood-combs as near the center of the location of the united colonies as possible, and pour all the bees together in front of it. This hive has not been the home of any of them, and as they have now none of their own, they will gladly accept it, and unite peaceably. After they have been domiciled a few days, the combs containing honey might be put in the upper story, and a little opening made so that bees could come up and carry it below. When empty, they should be stored away for use another season.

Sometime since, a boy called saying: "I saw a swarm of bees come out of your lot, and I will show you where they are now." I found them clustered in a neighbor's yard, and brought them home, but what to do with them was the question. I had neither frames or comb nor foundation to give them, and I put them into an empty hive; as the seasons ran, they might fail to build comb and store enough honey to last until flowers bloom. I threw flour on them, hoping to catch the queen, as they ran into an empty hive, and take her away, so that the bees would return to their old home, and I could see where the white bees went to, but I failed in the attempt. Then I remembered seeing a hive which contained very few bees, and on opening it, found it queenless. I took out the frames of comb, and gave them (just as they were, containing honey and bee-bread, but no brood) to the swarm. So they commenced housekeeping in a well-furnished house, with plenty of provisions. These combs would soon have been taken possession of by moths, and before cold weather, have been entirely consumed.

Some persons have a mistaken idea about moths, thinking they destroy colonies of bees; they merely move in when the bees move out, or are too weak to cover or defend their comb. I was very much amused this summer, while watching a swarm enter a hive which contained empty comb, at seeing these gentry fly out in hot haste; they saw that the enemy was too strong for them, and emigrated, leaving their young to be summarily dealt with. In a few moments they followed suit, being taken by the bees from their cradles and rolled off the hive.

Peoria, Ills.

PATENTS.

The Relation to Invention and Practical Honesty.

Written for the American Apiculturist

BY R. L. TAYLOR.

It seems there is a question arising among bee-keepers concerning the propriety of obtaining a patent on any article pertaining to bee-culture. It is broadly asserted that the bee-keepers of this country are now generally of the opinion that it is not best to obtain such patents. I know not on what authority such assertion is made, but I trust it is not true. I am glad to notice that the *Apiculturist* has boldly challenged the statement, and it seems to me the matter is of such great importance practically, as well as morally, that I have thought it worth while to say a word upon the topic.

It appears plain to me that the patent laws are beneficient in their effects to all; to the inventor in protecting him in his right to his own invention, and not less so to others who reap the fruit of his skill and study by reason of the laws furnishing him an incentive to apply his skill and study.

Many are opposed to the granting of patents, but that is not a difficult thing to account for. Some are opposed because they are themselves destitute of mechanical skill, and so imagine that a freedom to use the inventions of others would be the most advantageous thing for them. Others because, through a spirit of general charity, they think, though stumbled, perhaps, at the idea of taking the thought, time and money of the inventor without recompense, that the greatest good to the greatest number would come of a like freedom. Still others are manufacturers of bee-keepers' supplies, and aim to make and keep for sale everything that is largely called for. Naturally enough, such desire about all the profit that can be obtained, and so would prefer that the inventor have no legal right to any part of it, and either shut him out from all financial benefit, or else only give him credit for a nominal sum to be fixed at the direction of the manufacturer, and accepted as a gift.

But all these overlook the great fact that every party to a transaction taken as a whole must receive a share of the profit, or transactions become infrequent and business suffers. The drive wheels of a locomotive cannot say to the other wheels, give us all the oil, for that would create friction, and locomotion would cease.

It requires time, thought, labor and money to make and perfect an invention, and certainly the laboring inventor is worthy of his hire. And if that is so, should he not have legal protection in his right?

And then comes the dissemination of the invention, and the making plain its functions and advantages. How often when an invention has been patented, and its dissemination begun, does some one rise up and claim that he invented the same thing long before. He did not believe in patents, perhaps, and so seeing no hope of adequate reward, let his invention sleep in secret. The other, having hope of reward, publishes his discovery, and this, so far as the public is concerned, is the chief virtue of an inventor. Without question, the knowledge of articles patented is more likely to be disseminated.

All effort is made through some incentive; and in the struggle for sustenance and competence, there is only one incentive that moves all, and that is the hope of gain. Who will say it is best to take that incentive way?

It is said that patents give an opportunity for the commission of frauds. If that were true, shall we abolish genuine money because it gives an opportunity for counterfeiting?

But it is not the patent of an article that gives the power to perpetuate fraud. That is rather a safeguard, as the fee prerequisite to the use of the invention begets caution and careful examination. Fraud is accomplished through the effort made to disseminate a worthless article. To the simple, the fact that an article is proclaimed as unpatented, smacks of honesty, and they are easily caught by bait, having apparently such an aroma. Thus, through advertising and other active efforts, a certain hive which is very inconvenient in use, and its making very laborious, and which is discarded by almost every bee-keeper having bees in any considerable number, as soon as he gains a little experience, is

now selling to beginners more extensively than perhaps any other hive.

Practically it operates as a fraud to a greater extent than all other bee-keeping articles with patents real or pretended combined. I speak from experience with the hive both practically and financially. A patent on the hive instead of increasing the injury, would have lessened it very materially. A few dollars' charge for individual rights has a wonderful effect in suggesting caution in the adoption of new devices.

Smokers furnish another case in point. The ones protected by patent are decidedly the best, and the ones heralded as unpatented are the ones to be shunned.

It is also objected that inventions are the work of many minds, and, therefore, a single person should not be allowed a revenue from them. It is true, no doubt, that inventors draw upon the common fund of knowledge amassed by others, but is he who is acute enough, and studious enough, and devoted enough to combine that knowledge, and make it produce practical results, and is, after that, sufficiently enterprising to bring it to the doors of the multitude, and to persist in explaining it until stubbornness itself shall admit its value, therefore entitled to no credit?

There is much food for thought in this subject, but time and space forbid its further pursuit at present, but let us intelligently consider, that we may get into a proper attitude with reference to it.

Lapeer, Mich.

DOT HAPPY BEE MAN.

EUGENE SECOR. C. C. MILLER.

Lively.

1. O I ish vone of dose hap-py bee mans, I don't got to
2. I schmokes mine pipe und I vatches dose bees, Und I laughs till mine
3. O Katri - na mine lofe, see dat gold on der legs, Dem prings a half
4. Ve moves on der town und lives like pig pugs, "In der clov-er field,"

vork an - y more; I loafs all day on der ap-ple tree shade, Or
schtomack goes schplit, Ven I see dem go schtrait for Hans Brinkerhoft's flow'rs Und
pound ef - ery day; Ve schtarts a Pank quick ven dose bees get some svarms, Und
so Yankees say; I'll vash mine feet from der dirt of der plow, Und

schmokes mine pipe on der door. For I haf boughted vone
nef - er suck Yakob's vone bit. You see dot king bee hef
prings in der vealth in dot vay. Mine frau her shall haf vone
jines der Un-ion right a - vay. I runs for der ma-yor or

lee - dle bee - box, Zhust zhammed crammed full of dose pets Vot
aw - ful schmart got Und him say to his vim-ens "Coome, coome, You
new gingham dress, Der childers don't got to home schtay Und
congress - man too, Or pres - i - dent may be, I guess, Und

—:o:—

WHAT ARE WEEDS?

Not botanically, or scientifically, but specifically. Do we always consider this word weed in its broadest sense? What constitutes a weed? Certainly we all know what common weeds are, even though we do not all do our duty in eradicating them, but there is a class of weeds that may be we do not always properly recognize as such.

We may consistently class any plant a weed that cumbers the ground to the detriment or destruction of plants that are wanted for useful purposes. Therefore, cultivated plants become weeds when there is a superfluity of them. If there are two or three more cucumber plants in a hill than can successfully grow there, or this much more than is needed, these surplus plants are just as much weeds as barn-grass or thistles.

The point I wish to make, then, is that a plant too much in any place is a

DOT HAPPY BEE MAN—Concluded.

vorks all der day and nef-er schleep nights, More'n ten tousand hundert I bets.
schteals all you can from der peoples round out, Und pring it to Yakob right home.
vork like some schlaves der kraut gar-den in, But fish and play pall all der day.
all zhust be-cause of dose bees in dot box, Vot vorks for most notings or less.
CHORUS.
O de busy, busy bee, O de busy, busy bee, What sings all around, about mine head, about my head,
O de busy, busy bee, O de busy, busy bee, What sings all around, about mine head,
Bu - sy bee, de bu - sy bee, What sings all 'round mine head, around my head,
O de bu-sy, bu-sy bee, O de bu-sy, bu-sy bee, What nefer stops vork ven I'm in bed.
O de bu-sy, bu-sy bee, O de bu-sy, bu-sy bee, What nefer stops vork ven I'm in bed.
De bu - sy bee, De bu - sy bee, What vorks ven I'm in bed.

weed, and if we have no other place for it should be removed and put with other weeds. As a general rule, not enough attention is paid to this operation of thinning. It may be carried too far in being done too early, before we know what the insects are going to do, or by taking out too many plants, but as a rule this operation is not carried far enough for the best results.

It is a very important factor in insuring the largest return possible from a given ground, with the least expense. A great economy to fertilizers will result from a strict attention to this matter, and but a small amount of experience is necessary to enable one to see how far to go with it. In thinning out, if we are at work upon a plant that is easily transplanted, always utilize all the plants we can find room for by setting out in places where they molest nothing else.

In thus filling up the nooks and corners, we shall transfer these surplus plants from the category of weeds to the list of useful plants.

Let us pay good attention to this thinning process while we are weeding, and see that we never neglect this important feature in making the most of our ground. We shall all find room for improvement in this regard.—*N. E. Farmer.*

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Nov. 14.—Alabama State, at Montgomery, Ala.
J. M. Jenkins, Wetumpka, Ala.

Nov. 16.—Marshall County, at Marshalltown, Iowa.
J. W. Sanders, Sec., LeGrand, Iowa.

Nov. 21, 22.—Pan-Handle, at Wheeling, W. Va.
W. L. Kinsey, Sec., Blaine, O.

Dec. —.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

1889.
Jan. 9-11.—Nebraska State, at Lincoln, Nebr.
J. N. Heater, Sec., Columbus, Nebr.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Swarming-Box.—John S. Seely, of Oswego, Ills., on Oct. 30, 1888, writes:

The patent swarming-box that was described in the BEE JOURNAL a while ago, I am inclined to think does not amount to much. I have used it, or all that is useful, as I recollect the description of it, for at least 3 years. I got the idea from the BEE JOURNAL, or some other paper, of the box on the stick, and I added the slide. I take a 16-foot piece 1x2 inches, cut in two, planed and smooth, and put three strips of tin 1-inch wide around both, and nail all to one piece; then bore holes through both a foot apart, and slide up and down to suit the height required, and put in a pin or small bolt. The box is 6 or 7 inches square, and about a foot long, open at the top, and several holes in the sides. I think that I have not cut a limb since I have used it. I generally give the limb a shake or jar with the box, sometimes with a pole. If the bees cluster on the body of a tree or large limb, I put the box under the bees, brush them off, and they will usually soon cluster on it. I have often carried large swarms 8 or 10 rods in and on the box. I have no patent on this, and I think that no one else has a right to.

Good Yield from Italians.—John Blodget, Flag Springs, Mo., on Oct. 27, says:

I commenced the season of 1888 with 9 colonies, 7 strong and 2 weak ones. I increased them, by natural swarming, to 30 strong colonies, all in good condition for wintering, with plenty of good honey, and to spare. I have taken off 1,428 one-pound sections of comb honey, and sold 900 pounds for 16⅔ and 15 cents per pound. This was all heart's-ease honey except about 200 pounds of linden, making an average per colony, spring count, of 158⅔ pounds. I have one new colony that was hived on June 9, on starters 4 inches wide in brood-frames; since that time it has stored 178 one-pound sections of honey. Its queen is a daughter of an imported queen reared artificially, and of last year's rearing. There was no swarming impulse there.

The black bees are a failure so far as this year is concerned. One of my neighbors, who keeps bees only three miles away, told me recently that he had 12 colonies in the Quinby hives, and that all he would get from all of them was only 90 pounds. I feel like hurrahing for the Italians. They are the "coming bees," and have come to stay, I hope, until they drive the black bee, moth and all into the—I do not know where, but I do not know of a place in Missouri bad enough.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must go by express.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 120 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

Hastings' Perfection Feeder.—This excellent Feeder will hold 2 quarts, and the letting down of the feed is regulated by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Melilot or Sweet Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide the spelling of words, and their meaning.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Good Enough.—Andrews & Lockhart, of Patten's Mills, N. Y., on Oct. 13, 1888, wrote as follows concerning their use of the advertising columns of the AMERICAN BEE JOURNAL:

We got more orders from our advertisement in the AMERICAN BEE JOURNAL than from all the other bee-papers put together. We shall advertise in it again next year.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St,

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c.
Sep. 12. R. A. BURNETT, 181 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 18@20c.; 2-lbs, 16@18c. Good dark 1-lbs., 16@18c.; 2-lbs., 15 to 16c.; fair 1-lbs, 12½@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9@9½c.; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.
BEESWAX.—22@23c.
Oct. 25, A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—We quote, Fancy white 1-lbs., 17@18c.; 2-lbs, 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8½c.; buckwheat, 5½@6½b.; California extracted, white sage, 7½@7¾c.; amber, 7¼@7½. Demand good and prices firm. New comb honey is arriving quite freely.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Oct. 10. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 11@12½c.; 2-lbs., 12½@1 c.; amber, 8@10c. Extracted, white, 5¾@6c.; light amber, 5¼@5½c.; amber and candied, 4¾@5c. Receipts light and market firm for best qualities.
BEESWAX.—Dull at 19@22½c.
Sep. 22. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white comb, 17@18c.; dark, 16c.—Extracted, 8@10c. Market bare of all kinds.
BEESWAX.—21@22c.
Sep. 24. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 4½@8c. per lb. Comb honey, 12½@16c. Demand slow, and only for best qualities.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Oct. 24. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.
BEESWAX.—None in market.
Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extrsected, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c.; light amber, in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.
Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The market is more active, with an upward tendency.
Oct. 25. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs. 17@18c.; dark, 14@15c.; California white 1-lbs., 17c.; dark, 14c. Extracted white 8c.; amber, 7c.
BEESWAX.—None in the market.
Oct. 11. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted in barrels, 5@6c., according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.
BEESWAX.—21c. for prime.
Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6 cents; light amber, 5¾c.; amber, 5¼@5½c. Comb, 1-lbs. 13@14c.; 2-lbs., 10@13c.,
BEESWAX.—20@22c.
Sep. 24. SCHACHT & LEMCKE, 122-124 Davl

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Nov. 14, 1888. No. 46.

EDITORIAL BUZZINGS.

When things don't go to suit you,
And the world seems upside down,
Don't waste your time in fretting,
But drive away that frown,
Since life is oft perplexing,
It is the wisest plan
To bear all trials bravely,
And smile whene'er you can.

Our English Friend, Mr. T. B. Blow, made us a short visit last week. He spent Sunday at Medina, O., and intends to return to England very soon. He was unavoidably delayed in Wisconsin, and now regrets that he has not time to accept the many invitations to call on bee-keepers on his return trip. He is a well-informed apiarist, and has traveled in many countries in the interest of bee-keeping.

New Cook Book.—On our desk is a copy of "Miss Maria Parloa's New Cook Book." It has an elegantly illuminated cover, and is filled with wise, judicious and palatable instruction. By adopting these directions, house-keeping may be made simple, easy and elegant. It will be sent for 30 cents by the publishers, Estes & Lauriat, 301 Washington St., Boston, Mass.

Honey Turning to Sugar.—When we were at the Columbus Convention Dr. A. B. Mason gave us a bottle of honey-sugar for our Museum. It was obtained thus: Let a barrel of honey granulate, and after removing the head of the barrel, scoop out and remove the honey in the centre. After awhile the honey at the sides will drain off the liquid portion and become dry sugar. That is how the doctor obtained this.

Bees in the Museum Zoo.—Geo. A. Wright, Glenwood, Pa., on Oct. 30, 1888, says:

I have just read the item from the Washington, D. C., *Star*, on page 691, and by your toot-notes to the article in question, I see that you believe there is some truth in the statement. Now I happened to be in Washington, D. C., on Oct. 11 and 12 (only three days after the article in question was written) and I spent the best part of two days in the National Museum; I looked the agricultural and "zoo" departments through with great care; made careful inquiry of the Government officials, and none of them had ever seen or heard anything of bees or honey in the National buildings. Had Miller or any one else placed bees on exhibition in the Museum, I should have been quite sure to have found them, for I had bees and honey particularly in mind when looking through the Museum. So just put the reporter down with Wiley, Evans & Co.

We *know* that Mr. Miller has bees on exhibition, but the *Star* reporter may have got things mixed up some on page 691.

Since the above was in type Mr. J. P. Miller called at this office, and we showed him Mr. Wright's letter. He said he was sorry Mr. Wright did not see the exhibit of bees. They were in the department of live animals, a small building just south of the Smithsonian. Had he gone there it would have been almost impossible to have missed seeing them. They were near the south window, just to the left of the large cage containing the two black bears six months old. If Mr. Wright still doubts Mr. Miller's word, he can write for the facts to Mr. Hornaday, Superintendent of the Department of Live Animals in the Museum at Washington, D. C. Mr. Miller, during the warm weather, exhibits bees in the large cities of America for a living, and he is an adept at it.

Oleomargarine, as a honey adulterant, is a strange thing, but that is what the paper stated, as we quoted from it on page 691. Our friend, A. I. Root, comments thus upon it in *Gleanings* for Nov. 1:

According to the American Bee Journal there are now reports started in the papers that in Holland honey is adulterated with *oleomargarine*. This last is ahead of all other previous false statements. We have heard about glucose, old rags, boots, shoes, etc., being used as material for making spurious honey; but oleomargarine is ahead of them all. I wonder if the compositor or editor had not lost his dictionary, and intended to use some other word.

No, friend Root, it was not a typographical error. The writer may have been imbibing or enthusing, but the proof may be found in Mitthell, a. d. Chem. Tech. Versuchsanstalt in Berlin, 1886, page 14. We hope some German apiarist will look it up, and report in the AMERICAN BEE JOURNAL.

The Time for Reading has come, with the long winter evenings. We have a large stock of bee-books, and would like to fill orders for them. To read and post up is the way to succeed in any pursuit—in none is it more important than in bee-keeping.

A Correspondent in the *Canadian Bee Journal* suggests that the Ontario Bee-Keepers' Association hold a union meeting at Brantford with the next annual session of the International American Bee-Association. Here is what he says:

I see by the last BEE JOURNAL that the North American Bee-Keepers' Association is to meet at Brantford next year. Why not have the Ontario Bee-Keepers' Association meet there with them? I observe that you, Mr. Editor, suggest that the Ontario Bee-Keepers' Association attend in a body, but I go one better, and propose to hold both annual meetings at once. "I may be wrong," as Mr. Pringle says, in the suggestion, but there is no way to find out how little a fellow knows until he comes out and makes himself heard.

We heartily endorse the suggestion. One large and enthusiastic convention is far preferable to two smaller ones.

Bee-Keepers' Union.—After giving a brief *resume* of the annual report of the Manager of the Union, the *Australasian Bee Journal* adds this paragraph, winding up with an expression of good will and desire for its prosperity:

The report gives particulars of several cases the Union has defended on account of its members, and shows how the Union has forced not only the now celebrated Prof. Wiley, but also lawyers, doctors, and ministers to recant all they have said in connection with artificial comb honey. The Union has paid away principally in defending cases against bee-keeping during the year ending June 30, 1888, $305.45, and the balance in hand on the same date was $258.27. Long may the Union flourish!

Colorado Climate.—Prof. A. J. Cook writes as follows in reply to Mrs. Harrison's article on page 718:

Let me assure Mrs. Harrison that Colorado climate seems not necessary. I have had a small plat of Rocky Mountain bee-plant for over ten years. It blooms well, and has attracted the bees freely each year. I have just sown eight acres, and shall know what is what next year.

Farmers should keep a regular account book, which will give them a full showing of the transactions of the year, showing the amount of profit or loss in each department, together with all the receipts and disbursements. Our Farmers' Account Book contains 150 large folio pages, with useful information and reference tables at the end. Price $3.00.

We will *present* it to any one sending us *four new subscribers* for a year, with $4.00 to pay for them. A little work in the dull winter days will procure this nice present. We send it by mail post-paid. It is handsomely bound.

Last Week we sent bills for those who are in arrears for subscription for a year and more. We hope they will be prompt in sending in this amount together with a dollar for next year.

GLEANINGS OF NEWS.

Statistics.—The subjoined summary of information, derived from individual reports given in *Gleanings* for Nov. 1, 1888, will give a correct idea of the present condition of the apiarian pursuit throughout the United States and Territories:

1. The average price of comb honey throughout the United States is a small fraction over 19 cents per pound. The average for July 1 was 16 cents. The market is improving some, as will be noticed. In some cases it sells as high as 30 cents. In a large number of localities it is sold for 25 cents. In only three or four places does it sell for less than 15 cents.

2. The average price of extracted honey is a fraction over 12 cents per pound. The statistics for July 15 showed 11 cents. There seems to be less fluctuation in the price of extracted than of comb.

3. A trifle over 48 per cent. of honey was secured throughout the United States by the reporters, and probably this percentage represents very nearly the proportionate amount secured by bee-keepers as a whole through the country. This is some better than the report in July, by about 25 per cent.

4. Of those who report in regard to the quality of honey, 66 report good; 32 fair, and only 8 poor.

5. Of the number who reply in regard to the season, 13 report it to have been good; 44 far, and 53 poor. If we put those who report *good* and those who report *fair* together, the ratio stands 57 to 53. In other words, in about half the localities the season has been poor; and in the other half, from fair to good.

6. This season is decidedly better than last: 66 report better; 12 about the same, and 27 worse. At this rate we may expect a tolerably good season next year, if the gradations from worse to better mean any thing.

7. As to feeding, very little has been done this fall; of those who report, 80 will not be obliged to feed at all. The remainder, 27, will feed some, but not much.

Comparing this season with the last, we have great reason to be encouraged; and although the reports given refer to individuals largely, yet in the majority of cases they are representative of the locality. If one man in a certain section of the State has had a poor season, those about him will experience pretty much the same state of affairs. There are occasionally exceptions to this rule, but it generally holds true.

In Auckland, New Zealand, they have mild winters. Mr. O. Poole, in the *Australasian Bee Journal* for Oct. 1, 1888, remarks thus concerning such seasons:

As a proof of the mildness of the past season, I may mention that a small colony of bees have successfully passed the winter months at Devonport on three combs in a glass observatory hive. The queen has for some time been busily laying, and at present they have every appearance of doing well.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

What Becomes of all the Sugar and Honey? asks the *American Agriculturist*, and then answers it in this way:

In the United States the consumption of sugar per head of the population was 29 pounds in 1869; 39 in 1879; 48 in 1883, and 54 in 1887. In England the consumption of sugar was 32 pounds per head in 1858; 41½ in 1858; 62 in 1867; 62 in 1876. For several countries the consumption is placed as follows:

Great Britain	63	pounds.
France	25	"
Germany	18	"
Denmark	33	"
Holland	25	"
Austro-Hungary	15	"
Italy	6	"
Spain	7	"
United States	54	"
Canada	51	"

Australia is put at 86 pounds *per capita*, and Venezuela at 180—a figure that seems incredible. In all countries the average consumption annually increases. Sugar is becoming as much a necessity of life as bread.

Then on the consumption of honey it continues in the following words:

The annual product is about 28,000,000 pounds, or ½ a pound apiece to the population. In 1880, Tennessee made 2,131,000 pounds; New York, 2,089,000; Ohio, 1,627,000; North Carolina, 1,591,000; Kentucky, 1,500,565, and seven other States—Arkansas, Georgia, Illinois, Iowa, Michigan, Pennsylvania and Virginia—produced more than one million pounds each; altogether, in the States named, more than half the entire product of the country.

The *Agriculturist* has fallen into an error, consequent upon copying the figures given in the census reports which are manifestly incorrect. The honey product of America is *over* a hundred millions of pounds, instead of a quarter of that amount.

Cider for Winter Stores.—Several correspondents have inquired whether it would be advisable to attempt to winter bees on stores composed of cider. In reply we commend the following from an exchange:

Bees should not be allowed liberty to cider. All stores from this and decayed fruit are very unhealthy for them during winter as food. Bees will store their combs full of sweet cider if allowed access to it, and in such a case heavy losses are sure to follow during the winter. It well pays each one interested, the apiarist or the manufacturers of cider, to enclose the mills in a building where bees cannot molest them, as it is almost impossible to manufacture cider, when the mills are located close to large apiaries, in the open air.

Combs containing a large amount of cider should be removed, and others of good honey inserted in their stead. If combs of honey are not at hand, it will pay to feed such colonies the full amount of winter provisions, and the combs of cider honey can be used in the spring with no bad effect for spring feeding; and even if combs of honey are soured to a certain extent, it will do no harm to give it to the bees in warm weather when they are flying daily. But to confine bees without loss during cold weather, it is essential to have a healthy diet on which to confine them.

New Constitution.—Prof. A. J. Cook writes us as follows about the committee who had it in charge last year:

Please allow me to say in reply to the severe strictures of my good friend Dr. Miller in reference to the committee on the new Constitution and By-Laws, that the entire blame rests upon me as chairman. I do not wish my friends Hutchinson and Root to suffer for my deliuquency. I have only to say that, owing to a severe press of work the past year, the whole affair utterly escaped my mind. It was like a thunder clap when Dr. Mason called upon me for a report.

I was not present at Columbus, O., when the new Constitution was adopted. As stated in my impromptu report, I do not think the new *regime* will be any improvement on the old. I believe the association is a very important organization. I also believe that it will do the most good by continuing its migratory meetings, reaching to all parts of the country, and securing essays for each meeting from representative men from all sections. After this the more informality, and the less machinery, the better. But we shall see. I shall heartily support the new order, and rejoice sincerely in any improvement that results.

One might easily conclude from reading the above that some one had proposed, or that the Constitution had provided that the annual meetings of the Society should be held at one place all the time. Of course they are to be "*migratory* meetings, reaching to all parts of the country," as heretofore. We agree with the Professor in regard to obtaining essays. The other plan has been "tried and found wanting."

Clear Grit.—As an illustration of this grand quality, Mr. E. S. Arwine gives in the *Pacific Farmer* his experience in hiving a swarm of bees. He says:

Once upon a time, about 1877 or 1878, I had a swarm cluster about 20 feet up on a tree near my apiary; and as I could not get at them with a ladder on account of the small limbs, I climed the tree to get them. I could get nothing to stand on, in reach of the cluster, but two small limbs about as large as a man's tumb, and held on by a limb about 1½ inches in diameter, and about 4 feet from the body of the tree.

The limbs I stood on being on a small fork that terminated in small branches outside of and around the cluster, I had cut the small limbs from around the bees, and was about tying a line to a limb, when the two branches I was standing on broke. The limb I was holding to, by the jerk of my weight coming all on it, bent quickly, striking the cluster, and that precipitated a large part of it on to my bare head, my hat having been knocked off while climbing.

Think of the joy of my situation—hanging by one hand some 18 or 20 feet high, with perhaps a hundred lances busily testing the hardness of my head, and the sticking qualities of my grit, but I did not fall.

I had had a broken thigh once, and I would prefer a thousand bee-stings to one broken leg. I quietly pulled myself on to the body of the tree, climbed down, combed the stings out of my scalp, while my wife picked a dozen or two out of my forehead, face and neck, after which I climbed up again, knocked the cluster into a basket, let them down by a rope, carried them to the hive, and emptied them out. Thus I learned that we could carry bees in an open-topped vessel as well as any way, and with no risk of jarring the cluster off.

BIOGRAPHICAL.

GRAVENHORST.

A Sketch of the Man and His Methods of Work.

Written for Gleanings in Bee-Culture
BY L. STACHELHAUSEN.

The name of the German bee-veteran, C. J. H. Gravenhorst (born Sept. 26, 1823), is well known to Americans. The teachers of Germany educate not only the people in the science of reading and writing, but many of them are likewise excellent amateur bee-keepers, silkworm raisers, etc., etc.; so, too, our friend kept bees as long as he acted as teacher.

In 1863, a disease of the ears made it necessary to quit teaching, and from this time he kept bees in the city of Braunschweig, as a specialist, and for the support of his family. Near that city are the wide plains of Lusneburg, with the honey-yielding heath, where bee-keeping has been a profession for centuries. Here the old heath bee-keeper wanders with one hundred or more straw-skeps from one honey-flow to the other until late in the fall; and they are masters in their trade. Here friend Gravenhorst got his first education as bee-keeper.

As the movable comb was more and more used, he used hives after Dzierzon and Berlepsch. He saw the advantages of these hives, but his income was not so large as he wished. In many respects the old straw-skeps were better. So the aim to unite the advantages of movable-frames with the advantages of the straw-skeps caused Gravenhorst to invent his hive, the "bogenstuelper," and he made it public in 1865.

Here I will remark, that Mr. Gravenhorst's hive was the first one in Germany by which any frame could be taken out without removing a number of other ones, as in our Langstroth hive, and Mr. Gravenhorst has always spoken and written for this principle.

As to his originality, his whole management and many things finally adopted here in the United States were known and used by Mr. Gravenhorst first, although in another form. On the other hand, his knowledge of the English language enabled him to study our American methods, and two voyages to England showed to him the progress of apiculture in that country, and he did not fail to use what he learned, of course modified for his contrivances.

For a long time he was the only bee-keeper in Germany who reported in bee-papers the advance in the United States and England. His experiences are laid down in many articles for bee-papers.

About 1873 Mr. Gravenhorst published the first edition of his book, *Der Praetische Imker* (*The Practical Bee-Keeper*). It was merely a pamphlet describing his hive and management. In 1878 the second edition came out, enlarged to a manual for the bee-keeper, and now I have before me the fourth edition, 1887, beautifully illustrated, and much enlarged and improved.

On the first of October, 1883, he started a new bee-paper, *Illustrierte*

C. J. H. Gravenhorst.

Bienenzeitung, by which he gives to his readers the experiences made in his own large apiary, as well as the most important improvements in apiculture in the wide world. This bee-paper is now one of the best, if not the best, in Germany.

In 1884 he was driven away from his home. His neighbors did not like bees, and Mr. Gravenhorst was ordered to remove his. He appealed from court to court, and the German bee-keepers stood nobly by him, helping to pay the expenses; but the lawsuit was lost, and he sold his old home in the city of Braunschweig and moved his bees to Storbeckshof, near the valley of the Elbe.

If we look in his book we will see many engravings which seem strange to us. But if we read the book, and if we know the honey resources of his country, we are bound to say that Mr. Gravenhorst's hive and management are not to be surpassed for his locality. His hive is especially adapted for wandering and for quick handling. Many manipulations are done by hives instead of by frames, the same idea represented now by Mr. Heddon, but in quite a different way.

The American bee-keeper will be astonished if he sees that Mr. Gravenhorst's hive is turned upside down to take out the frames. This is at first a concession to the custom of the heath bee-keeper; but many advantages are gained thereby. Many times we see all we need by a glimpse from below by lifting the hive only a few inches on one side. If the colony builds some drone-comb here, we have a sure sign that the swarming fever is commencing. The Heddon and similar invertible hives will show us these advantages by and by.

The cover of the hive is tight, and no mat or cloth or quilt is to be removed. This is an advantage, especially in the spring, after a revision has been necessary, because not a bit of the warm air of the hive can escape. The objections against this hive are, that for a short and very good honey-flow it is too small, corresponding to the one story and a half of the Simplicity only. Again, it cannot be enlarged, and thereby is not practicable for comb honey in sections.

In his management we find many things quite different from ours. In conformity to the honey-flow, and the usage of the heath bee-keepers, Mr. Gravenhorst increases his colonies in the spring, and unites again in the fall. He teaches, and has for many years, that swarms should be hived on starters only—an idea which finds advocates now among our best American bee-masters. For this purpose his artificial swarms are quite similar to the natural swarms; and one of his methods of forming artificial swarms is quite similar to Mr. Doolittle's method of forming nuclei. This chapter of his book is very interesting

Of importance is the chapter on moving bees from one pasturage to another. This is entirely new for the United States, and we could find no better teacher than Mr. Gravenhorst, who for many years has taken his 200 to 600 hives twice every year to another location, and with the best success, too.

In short, Mr. Gravenhorst is original in every respect. His aim is to advance bee-keeping to a pursuit giving a living to the manager, and to systematize the labor. In this respect he has done more than any other bee-keeper in Germany; and we can truly say that Mr. Gravenhorst is now the greatest master in *practical* bee-keeping in Germany. His crops of honey are counted by tons—a rare case in Germany.

One point I wish especially to mention, because he gives a glimpse of the character of the man. Many inven-

tors of hives think that their invention only is good, and that all other hives are impracticable. Not so with Mr. Gravenhorst. He fully perceives the advantages of other hives, and especially of our Langstroth hive, and his judgment was always impartial. In this respect he is far ahead of a few frivolous enviers who criticized his hive and management a short time ago.

In his book he gives descriptions and engravings of different German hives; but we find the Langstroth, Cowan, and the new Heddon hive too. No other German bee-book mentions these or similar hives. The operations and management are described, but he always gives remarks as to how the bee-keeper should proceed with hives of other styles.

Salem, Texas.

QUERIES AND REPLIES.

Using Chloroform to Quiet Ill-Tempered Bees.

Written for the American Bee Journal

Query 588.—1. Would any ill-effects follow the use of chloroform in quieting very ill-natured Cyprians or other bees? 2. Will they revive after being thoroughly paralyzed by its use?—Iowa.

I have never used it.—EUGENE SECOR.

1. No; not unless you go too far. 2. Yes.—H. D. CUTTING.

The use of chloroform is dangerous, either on bees or human beings.—DADANT & SON.

I cannot say, as I have never experimented in that direction.—J. M. HAMBAUGH.

A trial will tell you. If you kill them, it would be a "small loss."—G. M. DOOLITTLE.

1. I think not, unless greatly overdone. 2. I think so, but I have never tried it.—C. C. MILLER.

I have had no experience with chloroform, and so I do not know.—C. H. DIBBERN.

1. No. 2. Unless kept too long under the influence of it, they will revive.—P. L. VIALLON.

I have had no experience with either chloroform or Cyprians. *They might do well together.*—J. M. SHUCK.

1. I cannot speak from experience. 2. I think they will, but I have never tried it on a full colony.—MRS. L. HARRISON.

It all depends upon how *much* they were paralyzed. If I had cross Cyprians, or any kind of cross bees, I would paralyze them "for keeps."—JAMES HEDDON.

1. I think not. 2. Yes. I have used chloroform on bees until they fell from the combs. All revived, and seemed unharmed. I prefer, however, not to use it. Smoke, I think, is preferable.—A. J. COOK.

1. There will be no ill-effects if you know just when to stop. 2. Yes; but do not give too much. When you must give bees an anæsthetic, smoke them with puff-balls (*Lycoperdon bovista*).—J. P. H. BROWN.

1. I think not. Those who have tested say that there will not. 2. I have never tested it, but I see no reason why they should not; but I do not think its use should be pushed to that extent.—J. E. POND.

1. I have never used chloroform. On general principles I would think that a moderate use might produce no ill-effects. 2. That would depend upon the quantity used.—M. MAHIN.

It would depend entirely upon the strength of the dose. Just enough to "quiet them" would undoubtedly have no permanent ill-effects. Though I should not want to answer for those that were "*thoroughly* paralyzed."—WILL M. BARNUM.

I never use any severe measures to conquer spiteful bees. If a colony becomes unmanageable, I proceed to change the strain, and get rid of the unmanageable bees in that way. 1. I have never used chloroform to quiet bees, and therefore I do not know about its effects on them. 2. The word "thoroughly" is pretty strong. I would never expect to see bees active again after once being "thoroughly paralyzed."—G. W. DEMAREE.

No ill-effects would follow a moderate dose, but the true way to conquer ill-natured bees is to introduce a new mother of good-natured bees.—THE EDITOR.

Extracting the Honey from the Brood-Nest.

Written for the American Bee Journal

Query 589.—Would it not be a good plan to extract a part of the honey in the brood-chamber to give room for the queen, and still leave plenty of honey for winter stores, even if some feeding in the spring had to be done?—N. S.

No, never.—JAMES HEDDON.

No.—EUGENE SECOR.

No.—M. MAHIN.

No, not as a general rule.—WILL M. BARNUM.

No; she would have plenty of room without making the stores short.—R. L. TAYLOR.

No. Use Hill's device over the frames.—MRS. L. HARRISON.

Yes; but do this before the weather becomes too cold.—C. H. DIBBERN.

I do not do it. Bees properly managed during the honey season will not store too much in the brood-nest.—J. M. SHUCK.

Be very cautious about extracting from the brood-combs, late in the season. We do not believe in it.—DADANT & SON.

Without great care and good judgment it would be a *very bad* plan.—J. P. H. BROWN.

I never saw a hive too full of honey for safe wintering. The queen needs no more room than any other bee, late in the fall.—G. M. DOOLITTLE.

Should the colony be quite populous they will probably consume stores sufficient to make room for the queen. It might be necessary to extract in the spring.—J. M. HAMBAUGH.

If in the fall after the honey flow, I would not extract. I always found that those colonies which had plenty of honey in the brood-chamber to winter on, came out the strongest and in better condition in the spring.—P. L. VIALLON.

I like the combs well filled for winter. I would rather remove combs and have 30 pounds of honey in five Langstroth frames, or eight Gallup frames, than to have the 30 pounds in all the frames.—A. J. COOK.

Unless the hive is very small, it is not necessary, and I would rather have enough in the hive to avoid feeding in the fall or spring.—C. C. MILLER.

I never allow the queen to be crowded in the brood-chamber. The plan that gives her ample room should be adopted. Experience will prove what plan is the best.—J. E. POND.

It would depend upon the size of the hive and several other conditions. I want enough good honey left in the brood-chamber to carry the bees through without feeding in the spring, if possible.—H. D. CUTTING.

While I would prefer to have two or three combs in the middle of the brood-chamber only partly filled from the top-bars downward, as an empty place for the bees to cluster in, at the beginning of winter, I do not think that it is essentially necessary. The queen needs no "room" at this time of the year.—G. W. DEMAREE.

In winter, the queen takes no more room than a worker-bee. There can be no good reason for taking honey away from the bees in the fall, when they have not enough for their use in the spring.—THE EDITOR.

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Nov. 16.—Marshall County, at Marshalltown, Iowa. J. W. Sanders, Sec., LeGrand, Iowa.

Nov. 21, 22.—Pan-Handle, at Wheeling, W. Va. W. L. Kinsey, Sec., Blaine, O.

Dec. —.—Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.

1889.

Jan. 9-11.—Nebraska State, at Lincoln, Nebr. J. N. Heater, Sec., Columbus, Nebr.

May 4.—Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

CORRESPONDENCE.

APPLE-BLOSSOMS

In the Land of Flowers—Some Questions.

Written for the American Bee Journal

BY ALBERT VOUGHT.

Thinking that apple-blossoms on Nov. 1 would be a rarity in the frosty city of Chicago, I enclose a bunch gathered this morning, and I hope that they may not be too much soiled to help make up the bouquet that is to grace your sanctum on the day of arrival. Of course these blossoms will not come to maturity, but the bees are having a fine time gathering pollen and sipping the sweets "just the same." Apple-blossoms two months before Christmas, and again two months after—who says this is not a land of flowers and honey?

I cannot give an accurate account of honey taken and sold this season, so I will not attempt it; however, I feel very much encourged with the year's experience. If this has been a poor season, I would like to see a good one.

I, too, wish to make a protest. Why make any distinction in nice, clear, bright honey? We have acres and acres of white clover, why class it all as "southern honey," whether gathered in nice one-pound sections, or extracted and cared for according to modern bee-keeping, or in the old-fashioned "bee-gum," and mashed up with brood, dirty comb, etc., and "strained?" I am satisfied that I get as nice honey as that north of the "Mason and Dixon line."

A neighbor said to me one day, "Have you any more of that nice honey? I declare, that which I got was as good, or better, than any I ever ate in New York, while I lived there. It doesn't taste like the honey we get here. Your bees must be trained." I told him that it was only a difference in the way they were handled.

As I am only partially "trained" myself, and depend almost entirely upon the AMERICAN BEE JOURNAL, and as I have no neighbor bee-keepers (no legislation required here), I wish to ask:

1. Do bumble-bees drive away the honey-bees? In my lawn are six or eight honey-locust trees. I noticed during the past two years, almost countless numbers of bumble-bees and other insects on them, but not as many honey-bees as I thought there should be.

2. Is the Russian mulberry a honey-producing tree?

Illawara, La., Oct. 29, 1888.

[1. We do not think generally that bumble-bees have any antipathy to honey-bees. We remember that some 40 years ago a war between these bees was reported in Wales, at the close of which it is said that "heaps of the vanquished covered the ground, some without heads, others minus their wings, and others completely separated into two parts." One person is said to have "scraped together 3 or 4 bushels of dead bees with his foot," as a result of this singular war. This is very unusual, however, for they generally have no trouble with one another.

2. We think not. We never heard of its yielding any honey.—ED.]

SELLING HONEY.

How to Increase the Demand and Maintain Prices.

Read at the New York Convention

BY L. C. ROOT.

Those who have carefully read the various bee-papers during the past year, have observed the unusual interest which has been manifested in regard to the disposition of our products at remunerative prices. I have many times expressed the opinion that far too much thought was being given in the direction of producing large quantities of honey, and too little to the better quality and proper disposition of the same. I have so often expressed my views upon this subject, that I shall offer but few suggestions. Enough has been said, and practical plans enough have been offered to entirely revolutionize the system of marketing. To tell the exact truth, we have had too much talk, followed by far too little action. The great needs at present may be briefly stated as follows:

First, to attain to a higher standard in the production of our honey. This will be reached through the great freedom of discussion which is taking place in all our bee-literature. I am a thorough advocate of the "question and answer department" of our papers, where we are enabled to compare the opinions of so many of our best bee-keepers, expressed in so concise and explicit a manner. We should remember that anything tending to educate in the direction of raising the quality of our honey to a higher standard, is exactly in line with creating and strengthening a better market.

Our first aim should be a prime quality, and next complete and perfect finish, so that it shall be attractive and agreeable to handle. All this means proper fall management and winter work; successful wintering, and proper spring management; so that colonies shall be populous, and in condition to store honey rapidly, which aids its neat appearance. In short, it means, all the year round, hard work.

Second, we need to guard and foster most strenuously the fact that our product is a pure and wholesome article of food. In fact, the only commercial sweet, furnished entirely from natural sources, that has undergone no process of manufacture. It is as wholly and truly as natural a production as milk, and has ranked with it in all ages past.

Third. We are now come to the point where we need a reformation We talk much about "developing a home market," "creating a greater demand for our honey," "making proper exhibits at our fairs," etc., but we fail to practice what we advocate. In my opinion, one of the very greatest needs in the direction of solving the problem, is an entire revolution in our system of marketing. Our wares should be handled in every large and important market, by those who are thoroughly informed in every branch of bee-culture.

It may be urged that by these exhibitions we will induce many not now in the business to embark in it. I think not. I believe the better way is to come right out square and let them see what we are doing. I have made exhibitions at the Saratoga County fairs for a number of years, and have yet to hear of any one starting in the business as the result, but I know that it has been the means of helping hundreds. I may say thousands of pounds of honey, out of the glutted city markets.

I think, perhaps, you will agree with me that for the cause of apiculture, exhibitions at fairs are desirable, but will it pay the persons making them for their time and the necessary expense? We might ask, does bee-

keeping pay? Does my business pay? The answer depends in a great measure on the individuals themselves. It may not pay directly the first year, but if advertising is worth anything, it no doubt will, in the long run.

If your fair managers offer no premiums, make a good display one or two years without, and I think they will then, rather than lose the attractive feature. There is also a great advantage in being the first one to start anything like this.

Now, if these few ideas that I have here advanced will result in increasing the home consumption of our honey, thereby helping to relieve the city markets, I shall feel repaid for all the labor I have given this essay.

Stamford, Conn.

SPRING DWINDLING.

Loss of Bees in the Spring—Fancy Comb Honey.

Written for the American Bee Journal

C. E. WOODWARD.

On page 697, Mr. Doolittle states in his report for 1888, that he is again out at open sea, for the experience of the past spring has taken all of the conceit out of him; and he candidly confesses that he does not know what causes "spring dwindling," or degeneration. Well, let us see.

Mr. Doolittle says in his report that 2 colonies were wintered exactly alike. That may be true, so far as the eye could witness, and yet not be *exactly* alike. You may take two eggs that look just alike, and yet they are not alike; for one may sink in water, and the other may float.

So Mr. Doolittle's bees might not be just alike. One colony might have contained young bees, and the other might have contained old ones that died with old age. A colony of young bees, if well protected in the spring, will not degenerate, at least such is my experience.

Producing Fancy Comb Honey.

If bee-keepers wish to obtain fancy prices they must obtain fancy honey. How can we obtain fancy honey? Simply by using starters in the sections? No, I think not. Fill the sections half full? No, I would not. I would fill the sections full of foundation, and fasten the foundation to each side of the section, not at the top, and leave a bee-space at the bottom; for the bees will take care of that part.

I have tried, and experimented with all the ways, and I like the above way much the best. The sections are filled flush and full at the four sides. All of my honey sold for 15 and 15½ cents per pound, while others obtained 12½ and 13 cents per pound in the same market. This is the way I obtain fancy honey, and fancy prices.

South Newburg, O.

BEE-WARRIORS.

A Victorious Army Put to Flight by Bees.

Written for Harper's Young People.

The quiet little village of Holzmengen, in Transylvania, was in an uproar one bright summer afternoon long ago, for its Saxon inhabitants were fighting for their lives against terrible odds, as they had fought many a time before. The whole slope of the hill on the brow of which it stood was one great crowd of wild-looking men, with dark, fierce faces and white turbans, and strangely fashioned armor—those dreaded Turkish soldiers, the memory of whose fierceness is still preserved in our saying that any man of savage temper is "a regular Turk."

And all this time, while the air was rent with the din of battle, and Death was gapping to devour the village and all within it, a little girl barely ten years old, with long fair hair, and eyes as blue and bright as the sky overhead, was at work in her little garden just behind the village church, as quietly as if no enemy were within a hundred miles of her.

But this was not so strange as it looked. Little Lizzie was the daughter of the sexton who had charge of the church, which, as the largest and safest building in the place, was always used as a hospital in time of war; and the work upon which the little woman was so busy, was the preparing of bandages for the wounded, who were now being brought in thick and fast.

But in the midst of all this uproar and agony and death, the sun shone as brightly as ever, and the trees of the tiny garden rustled in the evening breeze; and around the twelve neat hives that stood ranged in a row, the bees were humming blithely, as they hovered among the flowers; and any one who had shut his ears to the frightful din below might have thought this spot the most peaceful in the world.

And now Lizzie, catching up a whole armful of bandages, hurried away into the church, where she was soon so busy among the wounded men that she hardly noticed that the noise of the battle was growing louder, seeming to roll nearer and nearer every moment.

But suddenly a fearful cry from without made her look up, and through the nearest window she saw the Germans crowding wildly into the one small gate of the church-yard wall, while behind them the dark Turkish faces and snow-white turbans were eddying like a flood among the houses. The Turks had taken the village, and were coming on to attack the church itself!

Luckily it could only be attacked on one side, for on the other the rock was so steep and slippery that no man alive could have scaled it. So the brave village bailiff, though bleeding from several wounds, ranged his men along the side of the wall that faced the enemy, and encouraged them to stand firm and fight it out to the last.

On came the Turks with hoarse yells of triumph, and in a moment the whole space outside the church-yard wall was a sea of grim faces and flashing steel.

And now the swarming assailants made a third charge, which brought them right up to the foot of the wall that sheltered all who were left of the defenders; and while some thundered upon the gate with axes, others planted ladders against the wall or tried to clamber up it on each other's shoulders.

Another moment and all would have been over; but just then Lizzie, struck with a bright idea (which came to her from an old story that she had heard one winter evening), darted back to her little garden, seized two of the bee-hives, one in each hand, and springing upon the low wall, hurled them among the swarming assailants. Two more instantly followed, and then other two, until the whole dozen hives had been flung down upon the heads of the clambering Turks.

The bees, enraged to madness at being sent whirling through the air so unceremoniously, fell like furies upon the shaven heads and bare arms of the Turkish soldiers, and gave them such a pricking that the Saxon arrows which had been falling so thick among them, seemed a mere nothing in comparison. Every man in the front ranks was literally black with the infuriated insects, which kept stinging the more fiercely the more the bewildered Turks tried to beat them off.

There was no more thought of battle or assault; for who could wield a sword or climb a wall with his head covered with a perfect nose-bag of enraged bees, and every exposed inch of his body smarting as if pierced by a thousand red-hot needles? Away flew the enemy, and away flew the bees after them, while the yells of pain of the discomfited Turks were answered by the uproarious laughter of the triumphant Saxons, who might well laugh to see a whole Turkish army put to flight by the device of one little girl.

Clouds and Sunshine.

BY M. B. CLEASON.

In their onward progress gliding,
Come and go successive years,
Freighted with the joys and sorrows
That beget our smiles and tears.

Borne on rapid, tireless pinions,
Sweep they down through boundless space,
Leaving now a belt of sunshine
And anon a darkened place.

Light has ever foil of shadow,
So does pleasure mate with pain,
And our joy is twin to sadness,
But our loss is linked with gain.

Life's most patient, helpful lessons
Are with wise, unerring care,
Given through trials that beset us,
Or in burdens that we bear.

—*Our Rest.*

CANADA.

Keeping Bees in the Hive in Unfavorable Weather.

Written for the American Bee Journal

BY S. T. PETTIT.

The weather here, almost all the time for the last five weeks, has been cool and cloudy, with a considerable amount of rain. I believe that this state of the weather at this time of the year, in this latitude, is better for bees than if it were warm and sunshiny. When the weather is warm and clear, at this time of the year, bees wear themselves out sucking around cider-mills, and working upon decaying apples in neighboring orchards.

I have thought a good deal over the matter, and tried to devise some cheap and effective scheme or device, whereby bees could be kept comfortable, happy and quiet at home, when surrounding conditions were just right to tempt them abroad to their own destruction. If any one can tell us how to do it, I am persuaded that the majority will vote him a great discoverer and benefactor.

To me it is a painful trial to look on helplessly, and see my bees storing large quantities of "death," in the shape of poor honey-dew, and frequently many colonies perish from this cause. Now would it not be a great boon to us, if we could make them "hibernate" a few hours every day, or whenever we should find it necessary to do so, until the trouble be past?

In my locality the worst kind of honey-dew is brought in only in the forenoon. Again, the time is apparently at hand, when Paris green and other poisons will be largely used upon fruit-trees; and it may be found necessary for the safety of bees, and for best results, to have it done at certain fixed times, or rather, when the blossoms are in a certain stage of advancement; and when this time arrives, the bee-keeper should be notified, who then should be in a position to keep his bees at home in that quiet state without worry that will do them no harm.

The pertinent question is, who will make the discovery? Who will tell us how to do it? The want is a felt one, and the remedy, I trust, will be forthcoming.

Experiments for Next Season.

The plan upon which I contemplate experimenting next season, is about as follows:

For each hive I will make a box out of wire-cloth, whose length shall be equal to the width of the hive, about 2 inches high and 3 inches wide, with bottom and one side out. Place this upon the alighting-board, and against the front of the hive, so that the bees can come out into this cage, but cannot escape or get out. Then place pieces of ice upon the box or cage, and shade the hive, particularly the front.

The ice will cause a current of cold air to fall constantly upon the alighting-board at the entrance, with frequent drops of ice-water. If the day is very hot, I will elevate the front of the hive so that both the ice-water and the cold air will flow down into the hive.

Now I fancy every bee that may spend a few seconds in this cold apartment, will return and report the day rather cloudy, cool and wet for outdoor operations. What do bee-keepers think about it? I would add that "lots" of ventilation is a great factor in keeping bees quiet in hot days.

Belmont, Ont., Oct. 25, 1888.

BEES AS DOCTORS.

Incidents in the Apiary Occurring this Fall.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

The weather has been cut off from the best piece lately, and I have enjoyed exceedingly to be out among the rustling, falling, fragrant leaves, bottling up sunshine to uncork during zero-time. I am like the Yankee seeking work who was hired to pound on the side of a log with an axe. In a short time he threw it down in disgust, saying: "I can't do it; I must see the chips fly." When told by a physician that I must walk and drive in the open air a great deal, I said: "I can't do it unless I have some object." He looked at me in disgust, saying: "Isn't health an object enough?" No, it was not. I needed something to do that would cause me to forget self, pains and aches; and bee-keeping fills the bill. It is good medicine to be taken well-shaken, but not in too large doses.

Doctors prescribe the bee's sting as a remedy for some ailments, and a powerful one it is, too, and they had better let the bee administer it. It can drop it out from its bottle with more precision than it can from the apothecary's. I have no doubt that rheumatism, dropsy and kidney disorders are greatly benefited by working with bees.

I used to tell a little girl, when putting on my shoes for me during winter, that when the weather got warm, and I worked out with the bees and got stung, she would not have to do it any more; and she never did, for I could do it myself.

I was once very favorably impressed with the life-giving qualities of bees. I had been very sick a long time, and was barely able to walk, when I went to a hive containing a large colony of bees, uncovered them and sat down by them, breathing in their effluvia. It had a wonderfully exhilarating, rejuvenating effect upon me. Why, I was "born again." It was during the working season of bees, when they are visiting thousands of flowers and bringing home with them their medicinal virtues.

Fall Work.

This is the time of year when it pays to work in the apiary, and do it well. Promising to do better another year, will not answer. "Now is the accepted time: now is the day of salvation." Come with me, and we will take a look at the apiary. Do you see anything different in that large colony of bees sunning themselves in the portico, from the others? Yes, drones; there are none to be seen elsewhere. How fat and sleek, jolly and contented; happy as a clam. Why have they not been able to walk the plank? The ladies need them no doubt; so tolerate their company. Let us examine them and see if they are not queenless. How heavy this frame is, sealed clear to the bottom!

We will remove each frame and look it over carefully, and see what we can find. Not a bit of brood—but this is not strange. There is little in any of the colonies now; they usually have a little patch, which is a wise provision of nature, against the loss of the queen; for, as long as they have an egg, they can rear another one. But if not, alas! they must perish; they cannot make something from nothing.

See! this explains it—a queen-cell. She has just come out apparently; if it had been long, the bees would have cut it down like an acorn-cup. I do not like to say the queen has hatched, for how can the bee's egg hatch, and

afterwards the queen? If the young queen returns from her bridal-tour in safety, this colony will be all right in the spring. I will now put on this Hill's device and spread on this new muslin sheet, and run this hot flat-iron over the top of the hive, which melts the propolis, and sticks it fast. Now this hive can be carried "up-stairs, down-stairs, and in my lady's chamber," and not a bee get out. I think this is quite important, whether the bees remain in-doors or out.

When they are carried in the cellar, or out, they cannot escape from the top, or during the winter. I have had colonies badly weakened, almost ruined, by creeping up under the muslin into the cap, and perishing. I tear this sheet large enough so that the cap shuts down over it, and when it is on, the bees can be protected with dry leaves or chaff cushions, as preferred.

Hill's Device.

This looks like four half-moon pieces of wood, with a piece of hoop-iron for a back-bone. It makes a little warm nest under the muslin, so that bees can pass from one frame to another after honey, without going down into the cold. When I have not enough to go around, I put on some cobs or sticks. Bee-keepers formerly made holes in the combs, for passages for the bees during winter, but this device obviates it. It is the invention of a successful bee-keeper, of Mount Healthy, O.

I will now put on the device and muslin on this large colony. It pays to use new muslin in the fall, as the the ventilation will be better during the winter. I formerly used duck, but it costs more and is no better. These stiff, propolized ones make good kindling on a cold morning. There is a good deal of wax on them, but it does not pay to boil them up to melt—more game than candle. How the bees boil out in front and on top! I will mark this hive "No. 1." You see that hive over there marked "Extra." That was marked "Extra" last year, and holds good for this; not on account of it being so populous, but because it stored more surplus than others of its size. That is the kind of a colony to rear queens from, and must keep its colors flying.

This one is the last swarm of the season—quite late—and I did not think that it would pay to climb after them, but I did, all the same. I gave it, when hived, six frames of comb, that I took from a hive that had a drone-laying queen which had been unnoticed, until there was scarcely a corporal's guard of workers. The hive is quite heavy; but, I will put these two frames of uncapped honey back of the division-board, and leave them to carry it in, before I put on the muslin. I will mark it "C," and be sure that it is carried into the cellar.

Bee-Cellars.

Take a look at mine. You see that it is partitioned off from the main cellar, and is under the sitting-room, where a hard-coal fire never goes out, from fall till spring. It has a window hung on hinges, which is protected with wire-gauze, and a sub-earth ventilator. The window is covered with thick green paper, to keep out the light. It has been freshly whitened, and the window and ventilator have been open all summer. The brick floor was thoroughly scrubbed, after the bees were removed in the spring.

Peoria, Ills.

IN COUNSEL.

Report of the Union Bee-Keepers' Convention.

Written for the American Bee Journal

BY JOHN G. SMITH.

The Union Bee-Keepers' Society met on Oct. 16, 1888, at the City Hall in Clayton, Ills., the attendance being small, but all who did attend came with knowledge obtained from the store-house of experience (which is acknowledged to be the very best) concerning the habits and instincts of one of man's best friends—the honey-bee.

The convention was called to order with President S. N. Black in the chair, and the minutes of the previous meeting and the Treasurer's report were read and approved. The convention then adjourned until 1:30 p.m.

AFTERNOON SESSION.

President Black called the convention to order, and an essay was read by J. M. Hambaugh, on Hives and Honey Receptacles.

The next topic discussed was,

How to Increase Colonies.

J. G. Smith selects the best colony in early spring, confines the bees to as small a space as they can well occupy, by use of division-boards, and places on top of the frames a bee-feeder. He feeds regularly every 24 hours just what syrup the colony can consume, and no more. As the colony gets strong in numbers, he removes the division-boards and gives empty combs or foundation as required until full colonies are obtained.

"What is the best method to prevent swarming?"

J. G. Smith—Exchange places with those that are about to swarm, with those that are not.

Mr. Spencer—What if your colonies are all strong?

J. G. Smith—The result is the same.

Comb Honey vs. Extracted.

President Black preferred to produce comb honey.

Mr. Spencer—Mr. President, I think the reason that you do not like extracted honey is because you swallow it too soon.

"How can we overcome the prejudice to extracted honey?" Some one answered that it was hard to do.

J. M Hambaugh showed a sample of extracted honey in a bottle, and could hardly convince any one that it was honey.

Mr. Robbins preferred extracted honey.

President Black knew of no parties in this place that adulterated honey, but believed that it was done in large cities.

J. G. Smith had been trying to overcome the prejudice against extracted honey. He had taken some nice comb honey, extracted it before a customer's own eyes, and the customer thought that the action of the extractor changed the flavor, or gives the honey a taste that he did not like.

The convention then adjourned until 7:30 p.m.

The convention was called to order at 7:30 p.m., with President Black in the chair. A general talk was indulged in for about two hours, after which the meeting adjourned till 9:30 a.m. the next day.

SECOND DAY.

The convention was called to order at 9:30 a.m., with President Black in the chair, when the following subject was discussed:

Handling Comb and Extracted Honey.

J. M. Hambaugh had worse luck with comb honey than with extracted.

W. T. F. Petty favored the production of comb honey. He uses a frame holding 4 one-pound sections each, and places as many of these frames over the brood-chamber as is convenient, with a case surrounding the frames.

President Black—Do you practice tiering up?

Mr. Petty—Yes.

President Black—How much foundation do you use in each section?

Mr. Petty—Three-fourth inch pieces as starters.

President Black—How do you fasten the foundation in the sections?

Mr. Petty—I use a Parker foundation fastener. I do not think that it

is necessary to invert either hives or sections in order to get them filled completely.

J. G. Smith remarked as follows on, "What constitutes a normal colony of bees?"

The subject is a lengthy one, but I will try to give a short synopsis of it. The word "normal," as I understand it, means perfect, complete. A normal colony of bees consists first of a good, prolific queen, a suitable hive, nice, straight combs, eggs and larval bees in all stages, and hatching brood, and mature workers and drones. I cannot give here a full synopsis, as the describing of the many changes and different duties that each class of bees have to perform, would consume too much valuable time.

"How long does it take to rear a queen?"

T. S. Wallace had reared queens in eleven days, from the egg, and considered it a sufficient length of time.

J. M. Hambaugh claimed 14 to 16 days.

How to Re-Queen Colonies?

Mr. T. S. Wallace gives queen-cells to the colony.

President Black first shakes all the bees of the colony in front of the hive, then drops a fertile queen in their midst. He had been very successful in this way.

Mr. Howard Ogle cages a selected queen, removes the rejected one, places the former queen in a cage on a comb as near the spot as possible to where the rejected queen was; closes the hive, lets the bees liberate the caged queen, and examines the hives 48 hours later, when he removes the cage. He had been generally successful in this way.

How to Unite Colonies.

Mr. D. E. Robbins places one hive on top of the other, first removing the bottom-board of the hive to be placed on top, then puts the two hives together. He pays no attention to the queens (this should be done late in the evening), but lets them remain in that condition for three days, then shakes all together, when the job is complete.

J. G. Smith does the same as Mr. Robbins, except that 24 hours was the time required.

How to Winter Bees.

Mr. David W. McDaniel preferred a cellar, with slight upper ventilation in each hive.

J. M. Hambaugh prefers the same as Mr. McDaniel.

Mr. Daniel Shank, a nurseryman of Clayton, preferred lower ventilation.

Mr. T. S. Wallace winters his bees in a cellar, and favors lower ventilation. He cuts holes in the bottom-boards, and covers them with wire-gauze.

"When should bees be put into winter quarters?"

J. M. Hambaugh puts his bees in about Nov. 20, and takes them out sometime in April.

The convention then adjourned till 1 p.m., when the afternoon session opened with President Black in the chair, and the discussion continued as follows, on

Swarming and Bee-Pasturage.

President Black thought that pure races of bees would not swarm as much as the mixed races.

"What is best to plant or sow for bee-pasturage?"

Mr. Shank exhibited a raspberry-cane, and a bottle of raspberries in salt brine. They were of the new German variety, which he thought could hardly be excelled as a honey-plant. The canes are self-supporting and very hardy; the fruit is very large, and excellent in flavor. Every bee-keeper, as well as others, ought to grow them.

President Black sows buckwheat and Alsike clover. He found the latter to be good bee-pasturage.

J. M. Hambaugh had some experience with Alsike clover, but wished to try it another season before reporting as to its value as a honey-plant.

Mr. Petty thought that melilot or sweet clover was very good, if not the best pasture for bees.

"What is the proper space between brood-frames from center to center of the top-bars?"

Mr. Petty—One and one-third inches.

Mr. Robbins—One and one-half inches.

President Black—One and one-third inches is about right.

The Rev. Mr. Pears was present, and on motion he was unanimously made an honorary member of the Society. Mr. Pears then thanked the Society for their courtesy.

It was then noted that the name of this Society be changed to the "Central Illinois Bee-Keepers' Union."

The following resolution was then passed unanimously:

Resolved, That we tender our sincere thanks to the landlord, T. H. Brents, and to the resident members of this Society for their kindness and hospitality during our sojourn among them.

The election of officers for next year being in order, resulted as follows: President, Howard Ogle; Vice-President, W. T. F. Petty; Secretary, Jos. M. Hambaugh; Treasurer, J. G. Smith.

The officers will act as a committee on programme for the next meeting.

Mt. Sterling, Brown county, Ills., was then chosen as the next place of the annual meeting, the date of the meeting to be decided by the President of this Society.

On motion of J. M. Hambaugh, Pres. S. N. Black said: "I recommend the members of this Society to join the National Bee-Keepers' Union, at their earliest opportunity."

The convention then adjourned meet next year at Mt. Sterling, Ills.

JOHN G. SMITH, *Sec. pro tem.*

NEW LAWS

Of the International American Bee-Association.

Written for the American Bee Journal

BY R. F. HOLTERMANN.

It was with feelings of pleasure that I found Dr. Miller's criticisms of our Society, on page 711. There were several points that I thought might be changed to advantage, but when President Mason brought the matter up so (to me) unexpectedly, it took my breath away; all the time I knew there were some points, in my estimation, objectionable. Now kindly bear with me, and I will state them.

Article I. Strike out the word "American," and you have the name. Let me say that I cannot see any reason why we should not have an association truly international. Who dares to say that we in America have nothing to learn from Germany, Britain, France, Norway, Sweden, and other countries, and that they have nothing to learn from us, or from one another? If this is the case (and we know that there are men there of means, and who desire to advance bee-keeping), why, then, have we not reason to expect that they shall join us in convention? We may make a special effort to have such a meeting, say once in five years. Yet, let it be *international*, and let them understand that our doors are always open to them, and they have a right to meet us on equal footing.

Some may say, "Have we not papers published in the interests of bee-keepers, and we can have an interchange of all valuable ideas?" Let me say that that is impossible. He who thinks that he may remain at home, and read the report of a convention, and profit equally with the one who has attended, is greatly mistaken. Reports are not verbatim. Every reporter—it may even be unconsciously—gives prominence to what he thinks is of importance, and what he may consider correct, however mistaken he may be. You have then, to a great extent, to think as he does, and to see as he sees. Even were you to read a report verbatim, you would not share equally in advantage, for the very tones used

in expression alter the meaning of the words. For this reason, and to secure a mutual interchange of thought between countries, it is proposed, and we hope to succeed next year, in having the grandest bee-keepers' convention ever held, in which representatives from several European countries will take part—a convention from which every one can go home not only benefited, but *enriched*.

Article III. What about life members? Are we going to make figure heads of them? We do not allow them to vote, hold office, etc., unless they give us another $1.00 each year. This is *wrong*, and should be corrected, or the life membership clause struck out.

Article VI. The time is to be fixed at the previous meeting. Is this wise, or had the executive better decide this as circumstances may direct.

Article VIII of the BY-LAWS is optional, hence it is not objectionable, although it will probably never be made use of. Dr. Miller is wrong; he says *is* to be formed.

In Article IX., Clause 2, I agree with Dr. Miller. Five dollars is the affiliation fee; the local society gets two silver medals and a free membership. If these can be had for $5.00, all right; otherwise our funds will not allow it. And that reminds me that members should send on their membership fees for the new year, as funds are low, and a great deal of work requiring funds has to be done during the coming year.

Article XI is of no use to us. I agree with Dr. Miller.

Article XII is very good, but remember, send on those annual fees. We are out of funds, and the association is already indebted to me for postage, etc.

Article XIII, Clause 2, is very good. Let us stick to that.

In closing, let me say that I agree with Dr. Miller, and I am sure we all feel that a vote of thanks was, and is, due Mr. Newman for the great trouble he has taken in this matter, more especially as he was quite sick at the time.

Brantford, Ont.

EXTRACTING.

Constructing a Simple, Home-Made Honey Extractor.

Written for the Practical Farmer.

The production of comb honey, with amateur bee-keepers, is a difficult matter, especially to those having a few hives, and who prefer obtaining their honey to increasing their colonies. To read the number of articles written upon the subject in bee-periodicals and apicultural newspapers, it would seem that even apiarists with a large number of colonies have considerable trouble in getting the bees to work freely in the section boxes. Various plans have been suggested, the principal and probably the only certain one being the contraction of the brood-chamber to five frames, thereby compelling the bees during a honey flow to deposit it in the surplus chamber.

Now this may be a very good plan, and it certainly can be readily carried out by the party who makes bee-culture a business, and can sit down, pump in hand, ready to throw a wet blanket on a swarm endeavoring to get up and dust, or get in as unhandy a place on a tree as possible; but the bee-keeper in a small way, who has other things to attend to, is vexed when he comes home and finds that the honey he saw in the sections a week before is now safely stored in the honey-sacs of the missing swarm. Why, we may ask, should the bee-keeper run such a risk to obtain comb honey? It is no purer than extracted honey, neither is it so easy to partake of, unless you eat the wax, which certainly was never intended for food.

Mr. Lemuel Stout, of Philadelphia, after five years of bee-keeping, with from 3 to 5 colonies, had very little success in getting comb honey in the surplus department. There was plenty elsewhere, but unobtainable without destroying the comb, and then the product was only strained honey, an article not relished by any one who knows how it is obtained.

Mr. Stout had decided to get rid of his bees except a little pet colony in a hive about 8 inches square. The last week in June, 1888, there were about 40 pounds of honey nicely capped over in his hives, which, if he had an extractor, he could recover, but it certainly would not pay him to purchase an article that he might not want to use six hours annually. He thought it strange that among the 300,000 bee-keepers in the United States, no one of the number had devised some simple contrivance that would answer the purpose—an instrument that any one could make with very little trouble and expense.

If centrifugal motion would throw the honey from the comb in the standard extractors, it would do the same if the comb was put in a suitable shaped can and placed upon the edge of a horizontal revolving wheel. This, if secured to a vertical shaft about 6 feet long, might be operated by pulling a stout cord, say 10 feet long, around it.

Accordingly he took an old hoe-handle pointed at one end for his upright shaft. On this he fixed a discarded front wheel of a carriage. The pointed end of the shaft rested in a small countersunk hole made in a block of wood nailed to the floor, while the upper end revolved in a hole bored through a block fastened to a joist overhead. Round the hub of the wheel which extended downward, the cord was wound, by pulling on which strongly the wheel revolved, and with so much velocity that by the momentum acquired, the cord after being unwound, was wound up again ready when drawn upon to impart to the wheel an equal velocity in the contrary direction.

The tin-can used is deep enough to receive one of the hive frames, standing on end. It is nearly diamond-shaped in its cross section, and is securely closed by a tin lid. When in place it stands erect on the upper side of the felloe of the horizontal wheel, where its lower end is secured between wire uprights. Its upper end is embraced by strong wires attached to and extending from the shaft.

His instrument was first tried last 4th of July, when Mr. Stout uncapped the combs, introduced frames and combs, and extracted over 40 pounds of nice, clear honey, the combs being free from injury.

BEE-KEEPING

Considered as a Pursuit for Farmers.

Written for the Maryland Farmer
BY THE EDITOR.

The progress of this pursuit since our boyhood days is something wonderful, and even now it is quite evident that still greater progress is in store for the bee-keeper of the future. Men, women and children are now in the business of skillful bee-keeping, and the honey production of the country is becoming of vast magnitude.

The Bright Side.

That bee-keeping has a bright side is a fact which every one realizes. At the farmer's home it speaks of the delicious sweets gathered from the flowers, and reaped and enjoyed with the smallest degree of labor and care. All day long, while the farmer is toiling in the fields, these industrious providers are gathering the very nectar of the crops for his delight, and for the health and happiness of his household.

The Dark Side.

But it has a dark side, also. Not so heavy in the farmer's home, as when the bee-keeper, who has made this the

one great business of the year, meets with a failure of the honey crop, and after a season's labor, places all on the losing side of his ledger. This is indeed a dark side. But with the farmer, the only dark side is the slight additional labor, and the natural dread of stings; with the study necessary to make his venture a success.

Smoke.

Among the protections perhaps none is actually superior to smoke—a good smoker skilfully used will often prove a great blessing, and without injuring the bees, will enable the operator to handle them to his entire satisfaction. It is very true that in time of swarming but little danger may be apprehended as a general thing from bees, unless some accident should happen; for they are then too busy about important things of their own to trouble any one else. Yet the greatest care should be taken to move in the most moderate, cool and quiet way in their midst. We used to think that certain ones—when we have seen them taking up swarms in their naked hands, and pouring them into a prepared hive—were proof against bee-stings, or were almost supernaturally protected. But we have learned that such persons were protected only by a perfect self-possession and fearlessness, which bee-keepers must cultivate, and if possible acquire. Meanwhile, we do not advise any one to run the risk of arousing an angry colony and suffering when by a little forethought and care he can have all needed protection.

Planting for Bees.

The whole domain of nature, rich in flowers, is the treasury from which bees gather their sweets; but it should be the aim of bee-keepers to help out the supply by especial care. It is true that bees cannot generally reach the honey in the red clover; but in white clover and Alsike they find a good supply, and of the best quality. Some have planted large fields of buckwheat for their bees; but it does not give as rich a supply, nor as attractive a produce in the market as the others. Mignonette is also cultivated for the bees; and every year new plants are brought to notice and extolled highly. All the blossoms of the forest and the field are placed under tribute by the bees, and no farmer can go amiss in keeping a few colonies.

Last Year's Discouragement.

In many parts of the country last year was a great failure among those who depended upon bees and honey for their yearly income; but this was only a temporary check to the industry which is liable to befall in the prosecution of any single department belonging to the farm. It may not again occur in many years to come, and is no reason for neglecting the important duty of gathering so great a crop as that which every farm will yield, if bees are kept.

Helping the Bees.

A great success is in the various methods of helping the bees in their work. So great has been the improvements during the past few years, that much of the work which took up the precious time of the bees may be done now by machinery, and the actual work of gathering the honey be left to occupy the bees more continuously. By means of the uncapping knife and the extractor, the honey is taken from the sheets of comb, and the comb replaced for the bees to fill again, saving thus the long time necessary in building new combs.

Again, comb foundation for either brood-cells or honey surplus is made, and the work of the bees is thus directed to the best profit of the bee-keeper. This wax foundation is one of the greatest and best inventions connected with bee-keeping. It enables us to have straight combs of honey, in whatever sized frames we may desire, and the market is supplied with the beautiful one-pound sections which so attract the purchaser. It gives us also most perfect control of honey or brood production.

MELISSA HONEY.

Yield of 60 Pounds Per Colony from Melissa.

Written for the American Bee Journal

BY A. C. TYRREL.

FRIEND NEWMAN:—I have sent you a sample of melissa honey, which I think you will pronounce excellent. You will notice that the honey is amber colored, but that does not in the least detract from its good qualities.

You will also observe that it is very thick, notwithstanding the jar in which it has been kept since the middle of October, was tightly sealed. The plants from which the honey was gathered are rich in nectar, as well as pollen, and grew on very weedy ground, the seed being sown broadcast, and the ground harrowed over but twice, consequently having to take their chances with weeds of the rankest growth.

The yield exceeded my most sanguine expectations, and the facts will warrant the assertion that melissa is entitled to rank *first* as a honey-plant. From two acres my bees stored 1,500 pounds of as fine honey as I ever saw. The comb is as white as from any honey-producing plants, I believe.

I am so well pleased with the results of my experiments with the above named plants since 1881, that I will plant 4 or 5 acres next season. Your unbiased opinion as to the quality, etc., of the honey sent, will greatly oblige, as I wish to refute by solid facts and statements the oft-reiterated assertion that, "it does not pay to raise plants for honey alone." That theory—it is not a fact—published for so many years in some of the leading bee-papers, has discouraged apiarists in experimenting with various honey-plants, and planting for honey, to their detriment, and in consequence a protracted wail of "blasted hopes and no honey; bees dying of starvation; not a pound of honey in my hives, etc." has gone forth from nearly every hamlet in the country.

I forgot to say that at the commencement of blooming of melissa, the hives were empty, but before the close of the season, they were all filled, and some colonies had stored 60 pounds of surplus—a pretty fair showing for an "off year."

Madison, Nebr., Nov. 1, 1888.

[This is certainly a very excellent showing on the practicability of planting for honey. We have never doubted the judiciousness of the advice to plant for honey, and do not think that we ever shall decide adversely to it.

The experiments to be made by Prof. Cook, will be interesting to us all.

The honey said to have been sent to us by Mr. Tyrrel has not yet come to hand. When it does come, we will cheerfully give our opinion of it.—ED.]

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ There will be a meeting of the Susquehanna County Bee-Keepers' Association at the Court House in Montrose, Pa., on Saturday, May 4, 1889, at 10 a.m. H. M. SEELEY, *Sec.*

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall, on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee-keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The Marshall County Bee-Keepers' Association will meet at the Court House in Marshalltown, Iowa, on Friday, Nov. 16, 1888, at 10 a.m. All bee-keepers are cordially invited to meet with us, and bring along anything that they may have that will interest or benefit apiarists. J. W. SANDERS, *Sec.*

☞ The twentieth annual convention of the New York State Bee-Keepers' Association will be held in the City Hall, Syracuse, N. Y., on Dec. 11, 12 and 13, 1888. G. H. KNICKERBOCKER, *Sec.*

Your Full Address, plainly written, is very essential in order to avoid mistakes.

SELECTIONS FROM OUR LETTER BOX

Fall Crop of Honey.—G. M. Whitford, Arlington, Nebr., on Nov. 4, 1888, wrote as follows:

The season, in this locality, was very unfavorable to the production of honey. Wet weather and cool nights prevented the secretion of nectar in the flowers until the last part of August and the first part of September, when we had a short spell of warm weather; then for about three weeks the bees worked with energy until the honey flow was checked by the dry weather. My yield from 10 colonies is 226 pounds of comb honey, and 66 pounds of extracted honey. The greater part of the comb honey has been sold for 18 and 20 cents per pound for choice well-filled sections, and 15 cents for the imperfect ones. Extracted honey is selling at 15 cents per pound.

Good Yield of Honey.—L. E. Traphagan, Ellery Center, N. Y., on Oct. 30, 1888, writes:

On June 17 a swarm of bees issued that weighed 8 pounds. I have taken 75 pounds of honey from it, and they have 65 pounds by weight now. On June 29 I transferred a colony of old bees to a new hive, and they have 50 pounds of honey now, and I have taken off 20 pounds in sections. I think that they have done very well. This is my first year with bees. I get a great deal of excellent information in the BEE JOURNAL, and all bee-keepers should read it.

A Fraud.—Alderman & Roberts, of Wewahitchka, Fla., write as follows:

Noticing the address of Joseph McCaul in the AMERICAN BEE JOURNAL, stating that he had opened up bee-keepers' headquarters on Duane Street, N. Y., and as we had previously sold honey quite largely to the firm of McCaul & Hildreth Brothers, we shipped him 4 barrels and 10 kegs of honey to sell on commission. He received the honey and sold it to Strohmeyer & Co., but never answered any of our letters. If any readers of the AMERICAN BEE JOURNAL know where he can be found, we would like to hear from them.

[We wrote a letter to Mr. McCaul as soon as the above came to hand, demanding that he make proper returns for the honey *at once*, but the letter was returned to us unopened, by the New York Post-office, marked, "Removed—present address unknown." This is evidently another addition to the list of swindlers.—ED.]

Experience of an Aged Bee-Man.—James Jaggard, Rosefield, Ills., on Oct. 20, 1888, writes:

My bees did well considering the season, the colonies averaging 40 pounds. The old colonies did not store much surplus honey. I did not feed one pound of sugar. I have 38 colonies on the summer stands, with the brood-frames full of honey. I have ceased farming, and will devote what little time I have to bee-keeping. I am in the 83rd year of my age, hale, hearty and well. Bee-keeping is my delight, and their stings do not hurt me half a minute after being stung. I think that I have the best location for an apiary that is in this part of the country. I live on the banks of the Kickapoo creek, and there are hundreds of acres of flat land which abound in flowers of almost every kind. One queer feature is, that there is an abundance of Spanish-needle and golden-rod which the bees did not touch. There is a clearing of 30 acres joining my land, grown full of thistles; the bees worked on them for six weeks, and the honey was as light in color as white clover honey. I sold it all to the stores in Peoria for 15 cents per pound.

Bee-Keeping in Georgia.—R. H. Campbell, Madison, Ga., on Nov. 2, 1888, writes:

The season is mild, and the Italians have been booming and roaring on a plant that I have not as yet learned the name of. A brother bee-keeper in Mississippi calls it "bitter-weed," but this is not bitter-weed, as cows eat it, and it does not affect the milk. It is a species of buckwheat, as the bloom is white and very profuse. It yields honey abundantly, and we have it every fall when there is plenty of rain through September. I think that the plant is one of the asters. It abounds everywhere over the whole country in this section. I have sent a specimen to Prof. Cook, and will see what he says about it. The bees do not notice golden-rod while this is in bloom. The honey is excellent.

I have one or two A B C scholars here, and one says that his bees have gathered more honey this fall than they did in the spring. That is accounted for by his bees not being in proper condition at the time of the honey-flow. There have been three heavy honey-flows this year, viz: the first of May, the first two weeks of August, and from Oct. 15 until now. My 90 colonies of Italians are in excellent condition for winter.

I received a fine lot of imported queens from Italy in September, that were five weeks in coming by express. In two of the cages every bee was dead except the queens, which shows that they were very hardy. They had plenty of stores, and I cannot see why the workers did not live, unless they were all old bees, and no doubt that was the case. In the lot of eight queens, five came through safely. I have drones still flying in my apiary. We had one slight frost on Oct. 10, but it did no damage. Black bees and hybrids have done poorly, and the moths have played havoc with some.

International Bee-Convention.—The Pamphlet Report of the Columbus, Ohio, Convention is now issued, and copies have been sent to each member, as well as to the Colleges, Agricultural and Horticultural Societies and periodicals devoted to the industry. Copies can be obtained at this office, by mail, postpaid, for 25 cents. This pamphlet contains the new bee-songs and words, as well as a portrait of the President. Bound up with the history of the International Society, and a full report of the Detroit, Indianapolis and Chicago conventions, for 50 cents, postpaid.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

Do Not Fail to get up a club and send it with your renewal for next year.

Honey and Beeswax Market.

CHICAGO.

HONEY.—New crop arriving slowly, but demand is limited. White clover comb, 17@18c. Extracted, 7@9c.
BEESWAX.—22c.
Sep. 12. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.
BEESWAX.—22c. R. A. BURNETT.
Sep. 12. 161 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 18@20c.; 2-lbs, 16@18c. Good dark 1-lbs., 16@18c.; 2-lbs., 15 to 16c.; fair 1-lbs, 12½@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9@9½c.; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.
BEESWAX.—22@23c.
Oct. 25. A. V. BISHOP, 142 W. Water St.

DENVER.

HONEY.—Colorado, new 1-lb. sections., 13@15c. Extracted, 7@8c.
BEESWAX.—20@23c.
Sep. 7. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO.

NEW YORK.

HONEY.—We quote. Fancy white 1-lbs., 17@18c.; 2-lbs, 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8½c.; buckwheat, 5½@6½b.; California extracted, white sage, 7½@7¾c., amber, 7¼@7½. Demand good and prices firm. New comb honey is arriving quite freely.
BEESWAX.—23@23½c.
HILDRETH BROS. & SEGELKEN,
Oct. 10. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 11@12½c.; 2-lbs., 12½@1 c.; amber, 8@10c. Extracted, white, 5¼@6c.; light amber, 5¼@5½c.; amber and candied, 4½@5c. Receipts light and market firm for best qualities.
BEESWAX.—Dull at 19@22½c
Sep. 22. C. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white comb, 17@18c.; dark, 16c.—Extracted, 8@10c. Market bare of all kinds.
BEESWAX.—21@22c.
Sep. 24. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 4½@8c. per lb. Comb honey, 12½@16c. Demand slow, and only for best qualities.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Oct. 24. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.
BEESWAX.—None in market.
Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c.; light amber in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.
Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The market is more active, with an upward tendency.
Oct. 25. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs. 17@18c.; dark, 14@15c.; California white 1-lbs., 17c.; dark, 14c. Extracted white 8c.; amber, 7c.
BEESWAX.—None in the market.
Oct. 11. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted in barrels, 5@6c., according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.
BEESWAX.—21c. for prime.
Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6 cents; light amber, 5¾c.; amber, 5¼@5½c. Comb, 1-lbs. 13@14c.; 2-lbs., 10@13c.,
BEESWAX.—20@22c.
Sep. 24. SCHACHT & LEMCKE, 122-124 Davi

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Nov. 21, 1888. No. 47.

EDITORIAL BUZZINGS.

He who plants a tree
Plants a hope.
Rootlets up through fibers blindly grope;
Leaves unfold into horizons free.
So man's life must climb
From the clods of time
Unto heaven's sublime.
Canst thou prophesy, thou little tree,
What the glory of thy boughs shall be?
—*Exchange.*

That Melissa Honey mentioned by Mr. A. C. Tyrrel, on page 749 of our last issue, came to hand a few days ago, after that JOURNAL was printed. It is of excellent quality, thick body, and pleasant to the palate; though amber-colored, it will be found good for table and other uses. It has rather a pungent taste, which is more pleasant than otherwise.

Mr. Ivar S. Young, who visited the apiarists of America last year, has published some very disparaging and untruthful things about Americans. The head-master of the Grammar School in Christiania makes an apology for Mr. Young in these words, as published in the *Canadian Bee Journal* for Nov. 7:

Mr. Young....is very warm-blooded, and therefore at times rash and unconsiderate, and says things that had better be left untold.

True: and now let us hope that a sense of honor will lead him to correct the many erroneous things he has already said. We have written to him, pointing them out, and given him a chance to set himself right in the matter, as publicly as the misstatements were made. If he does so, Americans will forgive and forget. If not, they will know the measure of the man and the clothes which best suit him.

The Review of the new edition of "Cook's Manual of the Apiary," by the editor of the *British Bee Journal*, which may be found on pages 760 to 762 of this JOURNAL, is a very complete, fair and thorough criticism. While in general it meets our approval, there are some matters which are still open to discussion. Many are not ready to adopt the view that "honey is digested nectar," nor is the question, "Do bees hear?" settled to the satisfaction of some of our best-informed apiarists. But the matter, as discussed in the Manual and by the reviewer, is well worth careful study and investigation.

The reviewer makes repeated comparisons between Prof. Cook's Manual and the work by Mr. Frank Cheshire, and points out the superiority of the Manual in many respects. It is to be regretted that typographically comparisons result the other way. Mr. Cheshire's magnificent work is printed in the highest style of the art, on beautiful paper, and the illustrations are superb. It is a disappointment not to be able to truthfully say as much of Prof. Cook's Manual. The exceedingly fine illustration on page 46 of Mr. Cheshire's work is a marvel of beauty and excellence; in contrast, those on pages 306 and 307 of Prof. Cook's book are so badly printed as to be almost indistinguishable—caused by the inferior quality of ink and paper, and worse press work.

Giving credit for the illustrations is mentioned by the reviewer as commendable, and so it is, but unfortunately the Professor has therein made thirteen mistakes. This is a matter of but little importance, but it might be corrected in future editions.

Take it all in all, Americans have cause for pride in the many excellencies of the new edition of Prof. Cook's Manual.

Mr. George K. Hubbard, an apiarist of La Grange, Ind., has taken unto himself a wife. The pleasant ceremony occurred on the 8th inst. The bride was Miss Josie L. Spires, of Tiffin, O., a teacher in the public schools. The BEE JOURNAL extends congratulations, and wishes for them unbounded happiness and lots of honey.

Wooden Comb.—An exchange says that Mr. Aspinwall has, this summer, used wooden combs; that is, we presume, a midrib of thin wood, with the combs built on each side in the brood-chamber. It adds:

If the wintering of his bees in this comb is as successful as the summer experience, it will prove quite an innovation in bee-keeping. After making, these wooden combs are treated in hot wax, and are readily accepted by the bees, while the treatment prevents any effects of moisture on them.

The Date on the wrapper label of your paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to carry the date another year ahead.

Fun for the Boys.—This time it is made by one of the "girls"—Mrs. Lucinda Harrison, in the *Prairie Farmer*. She is always saying something original and amusing. Here is her latest dose:

OBITUARY.—Died at Columbus, O., Oct. 4, 1888, the North American Bee Keepers' Society, aged 19 years and 1 day. Services held at Representative Hall at the State House, Dr. Thomas G. Newman, of Chicago, officiating; Dr. C. C. Miller, leader of music; pall-bearers, Dr. Mason, Dr. Besse, Dr. Tinker, Prof. Cook, Sec. Hutchinson and R. F. Holtermann.

The heir to this inheritance is known as "The International American Bee-Association," and includes in its territory "all of the United States and Canada." I cannot see why the heir does not inherit the whole estate. Perhaps it is reserved for minor heirs. I thought North America extended from Behring Strait to the Isthmus of Darien. It is not stated what disease the parent died of, but I inter it was a dose of too much doctor, as there were many in attendance.

That is the unkindest cut of all, especially after dubbing the editor of the BEE JOURNAL as "Doctor!" "Died of too much doctor." It is a pity that Mrs. Harrison was not there to soothe its last moments, and administer consolation.

But it is the old proclamation: "The King is dead! Long live the King." The same announcement of death is also one of life. One succeeds the other instanter. The "North American" is dead, but the "International" lives, and by many reforms and improvements expects to merit and obtain the fealty and devotion before given to the one it has now succeeded.

Let us **all pull together** for success, and heed the moral of the following bridal story:

An eccentric bride-groom requested his bride to accompany him into the garden a day or two after the wedding. He then threw a line over the roof of their cottage. Giving his wife one end of it, he retreated to the other side, and exclaimed, "Pull the line!"

She pulled it, at his request, as far as she could. He cried, "Pull it over!"

"I can't," she replied.

"Pull with all your might!" shouted the whimsical husband.

But in vain were all the efforts of the bride to pull over the line so long as the husband held on to the opposite end. But when he came round, and they both pulled at one end, it came over with great ease.

"There," said he, as the line fell from the roof, "see how hard and ineffectual was our labor when we pulled in opposition to each other, but how easy and pleasant it is when we both pull together. If we oppose each other, it will be hard work; if we act together, it will be pleasant to live. *Let us therefore always pull together.*"

Moss for Winter Packing.—According to *Tidskrift for Biskjotsel*, moss is very often used in Norway for winter packing, and it is spoken of as very excellent. They let it dry, when it is green, and in this state it will better absorb the moisture from the brood-chamber than anything else. It never becomes musty, but is called to life again by the moisture, and will be as green and fresh as ever.

GLEANS OF NEWS.

Hunting Bees in Australia.—The following very interesting account of bee-hunting in Australia, is from an exchange:

The wild bee of Australia differs little in size or appearance from our common horse-fly, and is stingless. Most of the trees in that country are hollow, and it is in the cavities of the branches that the bees deposit their honey, at a considerable distance from the ground. It is of an aromatic taste, and chiefly gathered from the leaves and blossoms of the different trees that clothe the whole country, from the summits of the mountains to the sea-shore, with the exception of occasional plains, which are of rare occurrence. By the aborigines of Australia this honey is regarded as a great luxury, and it is very interesting to note with what sagacity they contrive to indulge their taste for it—searching it out with infallible eye-sight, and with amazing delicacy of touch. Their method of finding these natural hives, which are not numerous, is curious, not only from the fact that the most minute observation, and the most delicate manipulations must have been required to enable the inventor of it to succeed, but also because it displays a knowledge of the natural history of an insect, such as I can venture to say, a large portion of the civilized world does not possess.

From the absence in many parts of the bush of Australia of flowers, the little native bee may be seen busily working on the bark of the trees, and unlike the bee of this country, which is ever on the move from flower to flower, it seems to be unconscious of danger. This may arise from the vastness of the solitude in Australia, which are seldom or ever disturbed, except by a passing tribe, or by its own wild denizens, which are far from numerous. The bee is therefore easily approached, and the bright, clear atmosphere of the climate is peculiarly favorable to the pursuit.

A party of two or three natives, armed with a tomahawk, sally forth into the bush, having previously provided themselves with soft white down from the breast of some bird, which is very light in texture, and at the same time very bluffy. With that wonderful quickness of sight which practice has rendered perfect, they descry the little brownish, leaden colored insect on the bark, and rolling up an end of the down feather to the finest possible point between their fingers, they dip it in the gummy substance, which a pecular sort of herb exudes when the stem is broken, they cautiously approach the bee, and with great delicacy of touch place the gummed point under the hind legs of the bee. It at once adheres. Then comes the result for which all this preparation had been made. The bee, feeling the additional weight, fancies he has done his task, and is laden with honey, and flies off from the tree on his homeward journey, at not a great distance from the ground. The small white feather is now all that can be discerned, and the hunt at once commences.

Running on afoot amid broken branches and stony ground, requires, one would think, the aid of one's eyesight; but with the native Australians it is not so. Without for a moment taking their eyes off the object, they follow it, sometimes the distance of half a mile, and rarely, if ever, fail in marking the very branch where they saw the little bit of white-down disappear at the entrance of the hive. Here there is a halt, the prize is found, and they sit down to regain their breath, before ascending the tree, and to light a pipe, to which old and young, men, women and children, are extremely partial.

When the rest and smoke are over, with one arm round the tree, and the tomahawk in the other, the blackman notches in the bark, and placing the big toe in the notches of this hastily constructed stair, ascends till he comes to where the branches commence. Then putting the handle of the tomahawk between his teeth, he climbs with the ease and agility of a monkey, until he reaches the branch where last he saw the white-down disappear. He then carefully sounds the branches with the back of his tomahawk, till the dull sound as distinct from the hollow sound, tells him where the bees are. A hole is then cut, and he puts his hand in and takes the honey out. If alone, the savage eats of the honey until he can eat no more, and leaves the rest. But if others are with him, he cuts a square piece of bark, and after having his part as a reward for his exertion, brings down a mass of honey and comb mixed up together, which, though not inviting, is greedily devoured by his partners below.

Bee-Association for Maryland.—An enthusiastic correspondent of the State of Maryland, writes as follows on the subject:

I wish to call attention to the fact that there is not in our State (Maryland) a bee-keepers' association, although it embraces three of the largest supply depots in the country, and therefore suggests a goodly number of bee-keepers. Among the "Editorial Buzzings" of the AMERICAN BEE JOURNAL of Nov. 7, in an article about the number of bee-societies in America compared with those in Germany, it states as a reason for their scarcity in America, that our bee-keepers "think that they know it all, and there is no need of societies for them. And as for imparting their knowledge to their less confident or less informed brethren—they scoff that idea!" Now shall we not try to remedy this, and add one more to the number of American bee-societies? Can we not organize an association that will call together the bee-keepers of Maryland, and the surrounding country? Or shall we always remain "in short-arm'd ignorance?"

Certainly you can organize a society. Just issue a "call" for a meeting, organize an association, and there is no reason why you cannot have one of the best societies in America.

Here is a hint: If you act at once, you may be the first to affiliate with the "International American;" and that would be quite a "feather in your cap," for the "International" is taking everywhere, and will become the "central sun" of apiculture in America in a very short time.

Act quickly! Strike out for success! Be enthusiastic! These are the watch-words which bring success, everytime.

Ants.—A bee-keeper in Norway, Mr. P. A. Larsen, recommends as a remedy against ants, the use of the intestines of fish. He puts some of it into the nest, and he insists that the ants are always chased away, if this remedy is applied once or twice.

Another gentleman, Mr. C. Omberg, recommends the use of powdered lime. He puts some of it around the hives with the same good effect.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Food Adulteration was discussed at the annual meeting of the National Board of Trade at Chicago, last week, when considering the advisability of asking Congress to pass a law against adulterated lard. Among other things the preamble sets forth that "such adulteration of lard has grown to be a National scandal, and has seriously damaged the good name of American lard, both in this country and abroad."

The following resolution was, after considerable discussion, carried:

Resolved, That the National Board of Trade recommends to the Congress of the United States the enactment of such laws and regulations as will compel all refiners and dealers to brand all adulterated lard, "Compound lard," or with some brand such as will plainly distinguish the pure from the impure article, in order that the consumers at home and abroad may know the one from the other.

This is all very well, but why not by law condemn all other food adulterations? Almost everything used for food and medicine by man is adulterated, and all should be protected by law from the ill-advised and health-destroying sophistications. If we mistake not, a bill was prepared, and is now pending before Congress, which covers not only the adulteration of food, but also the compounded articles of food.

Every honest man should not only favor and endorse such action by Congress as would compel men to be honest with food of all kinds, including boney; but they should work for the enforcement of such a law to the letter, as well as the spirit thereof.

The low prices of honey have fortunately driven adulterators of that article to the wall. But if the prices advance again, they may revive their nefarious business.

A law against all adulterations is needed, and it should be speedily passed by Congress, and rigidly enforced in every part of the United States of America.

The Honey Season in Norway.—An editorial in *Tidskrift for Biskjotsel* for October, says: "This season has for us bee-keepers been a dull one, and the previous winter was still worse. A worse failure in the honey crop will scarcely be heard of. Many colonies had to be fed in the midst of the summer, and many of them starved to death. But now we have a good flow from heather, and we hope that the bees have gathered enough for winter use."

Regarding the heather honey, it is said, in another editorial, that it must be extracted *every day*, because if it is left with the bees until it is capped over, it is *impossible* to get it out of the cells.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide the spelling of words, and their meaning.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

Women and Bees.

'Tis a fact that can never be questioned,
However absurd it may sound,
That twixt women and bees a resemblance
Most wonderful is to be found.

They have both of them "combs," that is certain,
And in energy neither are lax:
And though honey to both is delicious,
They are both now and then in a "wax."

A wife full of cares economic
Is most like an industrious bee;
And the waist of a wasp on a lady
Is something delightful to see.—*Judy.*

Rapid and Tireless Work.—Concerning the work performed by bees and wasps, Susan Power, in *Vick's Magazine*, writes as follows:

Early as a man of science may be, Sir John Lubbock entering his study a few minutes after four in the morning, found a wasp already at work on the honey set out of the window. Bees and wasps suck all the honey from flowers and sweets they can carry, fly back to the hive, store it, and come back directly for another supply.

The wasp in question kept at work without a moment's rest until 7:46 in the evening, making a day of sixteen hours. The bee began at 5:45 in the morning, and also left off earlier than the wasp. Each visit from the honey to the hive took about six minutes, and it made ten visits an hour, and a hundred in the day. The wasp made sixty visits between 4:13 in the morning and 6 minutes past 12 at noon, for Sir John timed them all, and gives a table exact to the minute of each return to the honey on the sill.

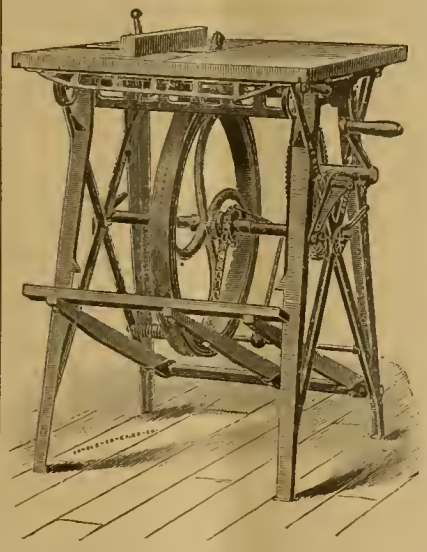
Sir wasp must have strayed to visit flowers sometimes, or to have a flight by the way, for his time varies from five to ten and 20 minutes between visits, which were kept up till dusk. This was in autumn. In summer they make overtime, and work late in the long English twilights, which are clear till after 9 o'clock.

In fine weather, bees often visit more than 20 flowers in a minute, and so carefully do they economize the sunny hours that if they find one nectary dry in a flower they do not waste time to examine others on the same plant. Mr. Darwin watched certain flowers carefully, and found that each one was visited by bees at least thirty times in a day. In large clover fields, or plains of wild flowers, every one is visited in the course of a day. Mr. Darwin carefully examined a large number of flowers in such fields, and found that every single one had been visited by bees. There is something very pretty in the thought of this tireless, faithful industry of insects, and of two of the most learned men in Great Britain spending whole summer days in the fields with great faithfulness watching the flower industry.

What use in it, you ask, with true modern disregard of any pursuit which does not return its per cent. of interest within the week? Only to find out more of the uses flowers and insects have for each other, that flowers were made to attract and feed bees that they in turn might carry the pollen which fertilizes and secures the seed of plants. Without this careful searching work of the bees in the clover fields and orchards, our field and fruit trees would die out in time.

The Time for Reading has come, with the long winter evenings. We have a large stock of bee-books, and would like to fill orders for them. To read and post up is the way to succeed in any pursuit—in none is it more important than in bee-keeping.

A New Implement for bee-keepers has just been brought out by the W. F. and John Barnes Co. It is a combined scroll saw and a circular saw. Each machine is perfect, neither being impaired by the other. The two machines can be put in one, ready for use either way, in one minute, and each will do its work with absolute success. This combination of uses doubles the value of the machine, at less cost than they can be furnished separately. The capacity of the scroll saw is exactly the same as that of scroll saw No. 7, the warranty as to what that will do applying equally to this. For light ripping, cutting to length, cutting joints, drawer and box work, etc., the circular saw of the combined machine is invaluable. In short, for general use, no more profitable investment can be made by any bee-keeper, or almost any wood worker, than this combined machine with its different combinations and attachments.



Combined Scroll and Circular Saw.

The circular saw, while remaining on its mandrel, can be taken at once out of the way when the scroll saw is to be used. The mandrel is set in its bearing in such a manner as to enable the operator to take the whole (mandrel and saw) from the machine in an instant.

All varieties of joint work can be done truly and rapidly. The table can be handily adjusted up or down by a cam, to allow any desired depth of cut being made by the saws or cutter tools. The circular saws are 6 inches in diameter, and reach 1¾ inches above the saw-table. A 7 or 8 inch saw can be used if desired.

Emery wheels, in size up to 1 inch face by 6 inches diameter, can be used to good advantage on this machine.

Those who make their own hives or surplus arrangements will find it an invaluable aid. Its price is $50, and it can be obtained at this office.

Do Not Fail to get up a club and send it with your renewal for next year.

Conventions as aids to progressive bee-culture, is thus set forth in the *Canadian Farmers' Advocate* for November:

Perhaps there is nothing, aside from periodicals, which so benefits a pursuit as the meeting in convention of those interested in that pursuit. Points which require solution may be discussed, or an idea secured, which leads to an entirely new and valuable train of thought. Amongst bee-keepers these conventions are very general, and the most important of them all is the North American Bee-Keepers' Association. Its last meeting was held Oct. 3, 4 and 5, at Columbus, O. Although the season has been a very poor one for bee-keepers, the attendance was very fair, and embraced four authors of standard works in apiculture.

A new departure was made in the way of a programme. There were but few essays, and a programme committee selected topics for discussion for each session, with a leader for the topic. Whilst many and lengthy essays should be avoided, a medium might be advantageous; and short ones interspersed with lengthy discussions, would bring out and concentrate discussion. Many topics of interest were brought up, and the sessions thoroughly enjoyable.

Brantford, Canada, was selected for the next place of meeting; and as this is only the second time in twenty years that the society will meet in Canada, a very large attendance is expected. Mr. R. F. Holtermann, of that place, is the Secretary.

Let us hope that the next meeting will be a right-royal one, inasmuch as it is to be held in the Dominion of Royalty.

Frank Leslie's Sunday Magazine for December closes the twenty-fourth semi-annual volume. It is filled, as usual, with the most entertaining matter in prose and poetry, fiction and fact. A Christmas anthem, entitled, "Unto Us a Child is Born," composed by Mr. C. Wenham Smith, organist of Plymouth Church, Brooklyn, occupies three pages, and is a brilliant piece of music. A sermon by Dr. Talmage, on "The Vail of Modesty," appeals strongly to American women.

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ There will be a meeting of the Susquehanna County Bee-Keepers' Association at the Court House in Montrose, Pa., on Saturday, May 4, 1889, at 10 a.m. H. M. SEELEY, *Sec.*

☞ The Pan-Handle Bee-Keepers' Association will hold its next meeting in the K. of P. Hall on Main St., between 11th & 12th Streets, in Wheeling, W. Va., on Nov. 21 and 22, 1888. All bee-keepers are cordially invited. W. L. KINSEY, *Sec.*

☞ The twentieth annual convention of the New York State Bee-Keepers' Association will be held in the City Hall, Syracuse, N. Y., on Dec. 11, 12 and 13, 1888. G. H. KNICKERBOCKER, *Sec.*

☞ The 23rd annual meeting of the Michigan State Bee-Keepers' Association will be held in the Council Room at Jackson, Mich., on Dec. 12 and 13, 1888. Greatly reduced rates have been secured at the Hurd House, also at the Commercial House (near the Michigan Central depot) at $1.50 and $1.00 per day. A programme is being prepared and excellent essays are already promised. Any bee-keeper having anything new and useful, and finding it impossible to be present, can send it by Express to Jackson, in care of the Secretary, who will place it on exhibition and return it as per orders. Please to come and bring your bee-keeping friends with you. H. D. CUTTING, *Sec.*

The Indian Summer.

Written for the Home and Farm
BY A. F. BROWNE.

The sunlight, in a warm and mellow tide
Upon this Indian summer day descends;
Earth, sky, and all the view of waters wide
In silent and harmonious beauty blends.

Along the southward slopes, the aftergrass
Still shows the emerald shade of summer time;
With lingering pace a troop of zephyrs pass,
And oft repeat a verse of mystic rhyme.

The vapor ships that slowly cross the sky
Are smooth and fleecy, like the clouds of June,
And only trees that leafless meet my eye
Remind me earth has passed from Nature's noon.

QUERIES AND REPLIES.

Depositing Eggs in the Royal Cells.

Written for the American Bee Journal

Query 590.—How nearly complete is the royal cell when the queen deposits the egg in it?—S.

About one-third, as to the length.—G. M. DOOLITTLE.

I do not know.—J. M. HAMBAUGH.

Usually it is in the early stages.—MRS. L. HARRISON.

When it is about in the shape of the cup of a small acorn.—M. MAHIN.

Just when they are about the size of a small acorn-cup.—P. L. VIALLON.

Only just started, or in the "acorn-cup" stage.—JAMES HEDDON.

Probably about one-half completed.—C. H. DIBBERN.

It is only advanced to a cup-shaped appearance.—J. P. H. BROWN.

I have seen some barely begun, and others almost large enough to seal over.—C. C. MILLER.

It is like an acorn-cup, ¼ to ⅜ of an inch deep.—R. L. TAYLOR.

I do not remember just now of having seen a queen deposit an egg in the royal cell. You will generally find an egg in the cell when about one-third formed.—H. D. CUTTING.

The royal cell is frequently made around an egg that has been placed in a worker-cell, and I have known the egg to be placed in the royal cell when more than half completed.—A. B. MASON.

It varies much; often in a shallow cup; sometimes in a nearly completed cell.—A. J. COOK.

It depends upon circumstances. I have known the egg to be deposited in the *incipient* cup from which the cell is built. The question is mooted.—J. E. POND.

As a swarm sometimes issues before queen-cells are started, it is plain that they are *sometimes* far from complete. I think that the queen does not always deposit the egg in a royal cell.—EUGENE SECOR.

I have seen this done only once. I held the comb in my hands, I saw the cell prior to the queen's visit, and saw it at the time of visit and afterwards. She undoubtedly laid in it at the time. The cell was about ½ an inch deep. A very fine queen was developed in the usual time from this queen-cell.—J. M. SHUCK.

The queen does not deposit the egg in the royal cell. The workers select a common worker-cell (with a larva from one to two days old); enlarge the cell—perhaps at the expense of three or four adjoining cells—and literally "float" the larva in royal jelly, which is simply partly-digested honey and pollen. The worker-egg, under this treatment will, in 16 days, hatch out into a perfect queen.—WILL M. BARNUM.

I have often seen eggs "standing on end" in the usual way, in queen-cells no deeper than an ordinary acorn-cup. According to my observations none but old or otherwise condemned queens ever lay eggs in queen-cells; and in these cases most likely they are forced to do it by the worker bees. Laying workers and exhausted queens, and sometimes drone-laying queens will lay eggs in queen-cells. But when strong young queens *swarm*, they usually go out before any cells have been started.—G. W. DEMAREE.

The egg will generally be found in the royal cell when it is from one-fourth to one-third of its length—but sometimes when it is nearer complete.—THE EDITOR.

Does it Injure a Queen to Sting Her Rival?

Written for the American Bee Journal

Query 591.—Is a queen injured by stinging her rival?—Illinois.

No.—P. L. VIALLON.

No.—R. L. TAYLOR.

Not usually.—DADANT & SON.

I think not.—H. D. CUTTING.

Not in the least.—M. MAHIN.

Yes, probably.—MRS. L. HARRISON.

I think not.—J. M. HAMBAUGH.

I think not.—A. B. MASON.

Probably never.—C. C. MILLER.

I think not, but I do not know for certain.—C. H. DIBBERN.

Usually not; but possibly she may be sometimes.—A. J. COOK.

No, sir; but she is by her rival stinging her.—J. E. POND.

I do not know, but I think not.—JAMES HEDDON.

Gracious! I don't know.—J. M. SHUCK.

I think not. Still I should prefer that a good queen should never combat with another queen.—G. M. DOOLITTLE.

I have met with cases where I concluded that they had been injured in this manner.—J. P. H. BROWN.

No; not as I have ever been able to observe—and I have made some observations in this direction.—WILL M. BARNUM.

I never supposed that the constitution of a mule was impaired by the sudden contact of his hind feet with some soft spot on the driver. No.—EUGENE SECOR.

To say that the surviving queen is *never* injured in her conflict with her rival, may be putting it too strong, but as *a rule* she is not injured in the least. I know of one case in which the contest between two queens proved fatal to both combatants; which case seems to prove that there are exceptions to the general rule.—G. W. DEMAREE.

Generally she is not injured, but an injury may occur in some cases.—THE EDITOR.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 65
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

CORRESPONDENCE.

CENTENNIAL.

The Premiums Awarded at the Columbus Exposition.

Written for the American Bee Journal
BY DR. A. B. MASON.

I have been so busy since getting home from Columbus, O., that it has seemed impossible to write, and send a list of premiums awarded in the Bee and Honey Department of the Centennial Exposition at Columbus, but I will *take* the time this morning, 2 a.m. I want to give you an article on the Exposition and the Bee and Honey Department, but I shall have to do that some other time.

Mr. Elias Cole, of Ashley, O., was awarded first premium on a foundation mill, samples of foundation for brood-chamber and surplus, and wax extractor; second premium on display of extracted honey, and third on a colony of bees, display of beeswax, display of queens, and bee-hive.

Dr. G. L. Tinker, of New Philadelphia, O., was awarded first premium on a colony of bees, bee-hive, exhibition bee-hive, arrangement for securing surplus, sections and supplies; and third on the best race of bees.

Dr. H. Besse, of Delaware, O., was awarded first premium on a smoker (Bingham's); second on beeswax, foundation mill, sections and supplies; and third premium on display of comb honey, sample of comb honey, honey extractor (Muth's), and wax extractor.

Mr. C. E. Jones, of Delaware, O., was awarded second premium on display of comb honey, colony of bees, race of bees, display of queens, extractor (Root's), wax-extractor, smoker, and arrangement for securing surplus; and third premium on a sample of extracted honey.

Mr. Aaron Goodrich—a gentleman over 75 years old—of Worthington, O., was awarded third premium on a display of comb honey and a display of beeswax; second on a sample of honey-vinegar, and third premium on a display of extracted honey.

Mrs. Mason, who has a larger apiary than I have, was awarded first premium on a display of extracted honey, sample of extracted honey, sample of comb honey, race of bees, honey-cake, honey-cookies, honey-jumbles, and honey-candies; and second premium on honey-plants.

E. E. Mason was awarded first on foundation made on the grounds, for brood-chamber and surplus; second on sample of comb honey and honey-candy; third on honey-plants.

If I am last on the list, and did not get as many premiums as I might have had if there had not been so much competition, I was not "left out in the cold" entirely. I was awarded first premium on a display of honey-plants, honey-vinegar, display of queens, foundation press, and honey extractor; and second on sample of extracted honey, foundation for brood-chamber and surplus, made on the ground; bee-hive and exhibition bee-hive; and third on supplies.

If I had the time, and did not have the "fear of the editor's waste-basket" before me, I should like to write somewhat in detail of the Bee and Honey Department and the exhibits, exhibitors, and some of those who visited our building during the Exposition, and it may not be wholly uninteresting to say something of our display, etc.

A building 36x60 feet was put up purposely for the apiarian department, and was well filled with everything relating to the apiary.

There were thirteen exhibitors, but only eight competed for premiums, as will be seen by the above list of awards.

A. I. Root sent a whole earload of appliances, and his display included almost everything from a queen-cage to machinery for making sections. It is perfectly useless to attempt to enumerate them, and he had two men there all the time to look after and explain everything about which a question might be asked, and to run the four new machines for making one-piece V-grooved sections. Mr. Root did not compete for premiums. His exhibit, without the machinery, occupied a space of 8x40 feet, and the section machinery occupied a space of 12x15 feet in machinery hall, and attracted a great deal of attention from the thousands and thousands of visitors, during the seven weeks of the Exposition.

Too much could not be said in praise of the gentlemanly conduct and ways of the five different gentlemen Mr. Root had at different times at the Exposition, and it seems but natural to mention Mr. Warner and Mr. Will Turner, who were the first on the grounds to put up the machinery and get things in running order. Then came Mr. Whipple, and Mr. Turner went home. Then these were relieved, and Mr. Art. Pulsifer came and took charge of the machinery, and Mr. Will Weed relieved Mr. Whipple. It was a pleasure to make the acquaintance of these men, and to have their company.

Mr. Aaron Goodrich, of Worthington, O., who keeps bees, as he said, "just for the fun of the thing," occupied a space 20 feet long by 7 feet wide, and exhibited comb and extracted honey, honey-vinegar, and beeswax, which was displayed on shelves that extended up 9 feet. Mr. Goodrich lives about nine miles north of the Exposition grounds, and having rather poor health, his family and friends objected to his making an exhibit, but his whole soul was in the business, and he wanted to help show the world what could be done in exhibiting the progress of bee-keeping in Ohio. He came from home to the grounds every Monday morning, bringing his "provender" (as he called it) and bedding with him, and staid in the building every night until Saturday, when he would go home to spend Sunday with his family.

The first four weeks Mr. Goodrich gained in flesh a pound a week, and the next three weeks two pounds a week, and before the Exposition was over he got so that from eating just enough to keep "soul and body together," he could, to use his own words, "eat a good square meal, and take his rations regularly."

I could tell of a good many interesting things about "Uncle Aaron," as everybody calls him, and so did we exhibitors, but it takes up valuable space; but the pleasure he enjoyed, and his partial restoration to health, *more* than paid him for all trouble and expense.

At some future time I will try to write about the other exhibits, exhibitors, etc., if acceptable; but time forbids more at present.

Auburndale, O., Nov. 12, 1888.

BUCKWHEAT.

Keeping a Record of each Colony in the Apiary.

Written for the American Bee Journal
BY LESLIE STEWART.

It seems rather queer to me that such bee-keepers as Messrs. G. M. Doolittle, D. A. Jones, etc., should not have found buckwheat a valuable honey-plant, while with me here in New York, it has not failed to give a goodly amount of surplus in the last seven years. In fact, I am beginning to put more confidence in it for a large amount of surplus than any honey-producing plant we have in this locality. To be sure, it has not quite so fine a flavor as white clover or basswood, nor so light colored, and must of course sell for a little less per pound.

I sell the extracted buckwheat honey at 2 cents per pound less than white clover or basswood honey; yet I find

that to my home customers I sell 5 pounds of buckwheat honey to 1 pound of clover or basswood extracted honey.

Buckwheat began to bloom about Aug. 3, this year, and it made lively times for the bees during the following ten days. I had up to this time extracted 50 pounds per colony, on an average, through my entire apiary, while my best colony stored in ten days (from Aug. 3 to Aug. 13) 78 pounds of extracted honey; the second best, 74 pounds, and the third 71 pounds; please remember that this was all surplus, and not one drop taken from the brood-chambers. This honey was well ripened and very nice.

At the above time I had grand hopes of a large crop from this source, and boasted that I would extract over 100 pounds per colony of choice buckwheat honey. But, alas, a cold rain set in, and has kept at it pretty much ever since. Yet my best colony succeeded in storing 109 pounds; second best, 107 pounds; third best, 103 pounds of buckwheat extracted honey. But my entire apiary averaged only 65 pounds, after seeing that all that had been run for extracted honey had enough to carry them until another season.

The above will show that buckwheat is not such a bad honey-plant in some sections, at least in a poor season.

The following report tells how it has done as compared with other honey-plants during the last three years:

In 1886: Extracted white clover, 20 pounds; basswood, 76 pounds; buckwheat, 69 pounds. Of comb honey, no complete sections of white clover; basswood, 52 sections; buckwheat, 48 sections.

In 1887: Extracted white clover, none; basswood, 82 pounds; buckwheat, 68 pounds. Of comb honey, no white clover; basswood, 61 pounds; buckwheat, 50 pounds.

In 1888: Extracted white clover, 25 pounds; basswood, 20 pounds; buckwheat, 65 pounds. Of comb honey, no complete sections; basswood, 20 sections; buckwheat, 50 sections. In the case of comb honey, the number of complete sections are counted.

I keep a careful record of each colony on a small slate, and when I extract, the date of extracting is put down with number of pounds extracted, and the quality of the honey. While with comb honey, an account is kept of the number of complete sections taken off, with the quality of the honey stated.

In the fall I go carefully over the entire apiary, and see that each colony has a goodly supply of winter stores. If one should be found short of stores, it is immediately fed, and the amount deducted from its year's record on the slate. For instance, colony No. 26 was worked for extracted honey, and the record on the slate is as follows: "Extracted honey, 20 pounds of white clover, 50 pounds of basswood, and 89 pounds of buckwheat — total 159 pounds. I was obliged to feed 10 pounds back for winter stores, leaving a total of 149 pounds as the record for the season."

Now during the month of September, the little slates are all gathered in, and their records with the number of the hive is carefully recorded in a large book for the purpose; and the next spring, should I want a choice breeding queen, I go to the book and select the best colony there indicated, which does not take long.

By the above plan it will be seen that my record is taken after the bees have been given a sufficient supply on which to winter. My bees are all wintered on natural stores. I never have fed a pound of anything else. I positively think that if all the bee-keepers would follow my plan in this respect, we would have less honey to clog our large markets, and get a better price for the honey.

Jefferson, N. Y., Nov. 5, 1888.

COOK'S BOOK.

Criticism of the New Edition of Cook's Manual.

Review from the British Bee Journal

BY THE EDITOR.

We are pleased to welcome this the thirteenth edition and fifteenth thousand of Prof. Cook's Manual, which first made its appearance as a modest pamphlet in 1876. So much was this at that time appreciated that it sold rapidly, and Prof. Cook has from time to time enlarged it, until it has grown to contain nearly 450 pages. In the present edition there are 110 added pages, and 31 illustrations; and it has been in a great measure re-written, to bring it up to the knowledge of the present day.

Not only has the practical part been brought up to the present time, but also the first part—treating of the natural history of the honey-bee—has had full justice done to it; for the works of Schiemenz, Schonfeld and others, have been mentioned, and the reader is made acquainted not only with the progress made in the science connected with bees, but also with the names of those to whom we are indebted for the discoveries.

Just fancy any one writing about Parthenogenesis, and not mentioning that to Dzierzon we owe its discovery in connection with bees, made in 1835, and published by him in 1842; yet hard as it is possible to believe it, an author has recently done so, and only mentions Dzierzon casually in connection with the introduction of the Italian bee in 1853, which enabled him to *prove* his discovery to be true, yet never once is he mentioned as the discoverer. This is the way many books are made! So conscientious is Prof. Cook in acknowledging where he gets his information, and giving due credit, that in the preface he even mentions where every woodcut is taken from; and this is in striking contrast to the ways of compilers of the present day, who copy right and left without even so much as alluding to those from whose works they copy.....

In Chapter II. the anatomy and physiology of insects, and the honey-bee in particular, are treated. Here we find many new illustrations, and much fresh matter. Describing the antennæ, he agrees with those who, like Leydig, Erichson, Hauser, and others, consider these the organs of smell, and tell us that "while Erichson first discovered the pits in the antennæ, Burmeister discovered the sensitive nerve-ending hairs at their bottom, and Leydig the perforated pegs or tooth-like hairs.

Further, he says, "We may state, then, that the antennal organ of smell consists of a free or sunken hair-like body, which opens by a pore or canal to a many-nucleated ganglionic nerve. We thus understand how the bee finds the nectar, the fly the meat, and the drone and other male insects their mates."

That the antennæ are organs of smell are generally admitted, but some have from time to time endeavored to show that they also contain the organs of hearing. Taking this view, we find Dr. Braxton Hicks, Graber, and Mayer, but the evidence they bring forward is not sufficient to satisfy scientists that these depressions are really organs of audition. This also is our view, and is the one taken by Prof. Cook, for he says, "Mr. Cheshire speaks of small pits in the antennæ, which he regards as organs of hearing. He gives, however, no proof of this, and the pits that he deseribes are not at all ear-like in their structure. Dr. Packard says that there is no proof that any insects except erickets and locusts have real organs of hearing. He here refers to the ear-like organs situated on the sides of the body of these insects. Dr. C. S. Minot, in reviewing Graber's work, says that it has not been demonstrated that even these tympanal organs are auditory, and adds that all attempts to demonstrate the existence of an auditory organ in insects have failed. That in-

sects are conscious of vibrations, which with us cause sound, I think no observing person can doubt.....Every apiarist has noticed the effect of various sounds made by the bees upon their comrades of the hive, and how contagious is the sharp note of anger, the low hum of fear, and the pleasant tone of a new swarm as they commence to enter their new home. Now, whether insects take note of their vibrations as we recognize pitch, or whether they just distinguish the tremor, I think no one knows. There is some reason to believe that their delicate touch-organs may enable them to discriminate between vibrations even more acutely than can we by the use of our ears. A slight jar will quickly awaken a colony of hybrids, while a loud noise will pass unnoticed. If insects can appreciate with great delicacy the different vibratory conditions of the air by an excessive development of the sense of touch, then undoubtedly the antennæ may be great aids. Dr. Clemens thought that insects could only detect atmospheric vibrations. So, too, thought Linneus and Brunet. From our present knowledge this view seems the most reasonable one, for nothing answering in the least to ears, structurally, has yet been discovered."

We are ourselves inclined to the same view, and do not see any reason why bees should not be sensible to vibrations which produce no effect upon us. Our ear is so fashioned that it is sensible to vibrations reaching at the outside to 38,000 in a second. The sensation of red is produced when 470 millions of millions of vibrations enter the eye in a similar time. But between these two numbers vibrations produce on us only the sensation of heat, for we have no special organs adapted to them. There is, therefore, no reason why bees should not be sensible to vibrations even with their touch-organs which do not affect us.

We have examined the antennæ repeatedly with the microscope, both superficially and section by section; and although using instruments second to none in efficiency, we have failed to trace any connection between the organs described by Graber and Mayer and an auditory apparatus. The title of Graber's work above referred to, is *Uber neue otocystenartige Sinnesorgane der Insecten, 1878*; and Mayer's, *Sopra certi organi di senso nelle Antenne dei Ditteri, 1878.*

In describing the compound eyes, Prof. Cook gives illustrations from Gegenbower, but we think they do not give such a good idea of the structure of the eye as those of Grenacher, copied by Cheshire, and introduced on Plate IV. of his book. We have a very beautiful, unique microscopic section of the eye, showing the disposition of the rods, and the decussating nerve fibrils, corroborating Grenacher's views, and showing the accuracy of his drawings. When we were staying at the College, we showed this preparation to the students of Prof. Cook's class, and they were astonished at the beauty of the structure of this organ.

Prof. Cook does not hold the view of a mosaic vision, which, he says, "is now abandoned," but thinks the philosophy of sight in insects is rather like that of higher animals, except thousands of eyes instead of two are used as one. Although their sense of color is very keen, our author believes "more has been made of this matter of color than truth will warrant." We think so, too, and believe that the experiments of Sir John Lubbock go to prove, not that bees prefer one color to another, but that they can be accustomed to recognize a certain color.

There is much worthy of study in this part of the chapter which refers to organs common to most insects, but we have not the space to go through them as carefully as we would wish, or as the work deserves. The second part of the chapter refers more particularly to the honey-bee. Referring to food given to queens and drones, he says Schiemenz and Schonfeld are unquestionably correct in the belief that they are fed by the workers the same food that the larvæ are fed, and reasons from the fact that, as he finds the queen lays over 3,000 eggs a day weighing 3,900 grams, while she herself only weighs 2,299 grams, for her to be in a position to lay nearly double her weight daily can only be possible because she is fed with highly nutritious food, which was wholly digested for her. Schonfeld found that the queen, like the drones, will soon die if shut away from the workers by a double wire cage, even though they have access to honey.

One of the most interesting paragraphs in this chapter is that referring to the glandular organs, which we find very well explained both as regards their structure and functions. Ramdohr, in 1811, discovered a pair of salivary glands in the thorax, and two other pairs were discovered by Meckel in 1846. These have been fully described by Siebold. Their functions are well known. Still Cheshire says on page 72, "and yet dense ignorance respecting them is common to the present day, even such an accomplished German apiculturist as Berlepsch failing to mention them." Had Cheshire looked at page 136 of *Die Biene*, by Berlepsch, he would have found that not only does this distinguished German mention them, but that he also describes their functions. Schiemenz goes into the matter very carefully, and in an elaborate monograph, beautifully illustrated, he endeavors to show that they produce a secretion which is the food of the larvæ and queens. This view has been proved to be incorrect, and Schonfeld has fully demonstrated that the food of the larvæ is, as Dufour first pointed out, digested by the workers. Moreover, any doubt as to this being the case has been removed by the experiments of Dr. A. de Planta, who shows that the chyle food of the queen, drone and worker larvæ varies. Prof. Cook explains this very clearly, and then goes on to treat of the honey-stomach with its four-lipped mouth, and shows how the bee can either feed herself or store honey at will.

We ourselves do not believe that the glands supply the larval food exclusively, although we think that secretion from these is added to the chyle food given them. Also, why do the queen and drones have glands? for if they get food as a secretion they do not want them.

This is how Prof. Cook sums up the matter: "Before leaving the subject, it seems well to remark that it would appear that the old view of Dufour, so ably advocated by Pastor Schonfeld, is, despite the arguments and researches of Schiemenz, the correct one. The queen, drone and larvæ do not get this food as a secretion—a sort of milk—but it is rather the digested pollen or chyle modified, as the bees desire, by varying their own food. In addition to this albuminous food the queen and drones also take much honey; thus they need the glands which furnish the ferment that changes cane to reducible sugar, and they have them. If all honey were fully digested, then the drones and queen would not need any glands at all. The fact that the pollen that the larvæ do get is partially digested is further proof that this is chyme, or partially digested pollen."

The legs of bees, with their antennæ—cleaners, claws, spines, and beautiful pulvilli, are fully described and illustrated, as are also the mouth parts and sting. He does not believe that the poison is dropped into the cells to preserve the honey according to Dr. Mullenhoff's theory, but thinks the formic acid in honey doubtless comes from the honey-stomach of the bee.

Chapter III. is devoted to swarming and natural methods of increase. Alluding to the piping of queens, he agrees with Landois that this is a true voice made in the cells, and even also by a queen whose wings are cut off.

He says it is usually asserted that bees do no gathering on the day they swarm previous to leaving the hive, but that is not true. Mr. Doolittle thinks they are just as active as on other days. The reason for clustering of the swarm, he says, is, no doubt, to give the queen a rest before her long flight.

Speaking of honey, he says it is "digested nectar." This nectar contains much water, though the amount is very variable—a mixture of several kinds of sugar and a small amount of nitrogenous matter in the form of pollen. Nectar is peculiar in the large amount of sucrose or cane sugar which it contains. Often there is nearly or quite as much of this as of all the other sugars. We cannot, therefore, give the composition of honey; it will be as various as the flowers from which it is gathered. "Again, the thoroughness of the digestion will affect the composition of honey." He thinks it likely that incomplete digestion and the possible variation in nectar make the determination by the analyst either by use of the polariscope or chemical reagents a matter of doubt. He goes very fully into the action of honey under the polariscope, and shows that too much reliance should not be placed on this test. He finds the specific gravity varies from 1.40 to 1.50. Honey will generally granulate when the temperature is reduced below 70°. Some honey seems to remain liquid indefinitely. Granulated honey is almost certainly pure.

In speaking of honey-comb he says, "The late Prof. J. Wyman demonstrated that an exact hexagonal cell does not exist. He also showed that the size varies, so that in a distance of ten worker-cells there may be a variation of one cell in diameter, and this in natural, not distorted cells." "This variation of one-fifth of an inch in ten cells is extreme, but a variation of one-tenth of an inch is common." We have ourselves carried out a large series of measurements which fully confirm this, and we hope soon to be able to publish the results. He says, as we have also maintained, that bees change from worker to drone cells, not by any system, but simply by enlarging and contracting. The transition cells are usually of four rows, although sometimes there are two or as many as eight."

Prof. Cook says, "An English writer criticises Langstroth's representation of these irregular cells, and adds that the angles can never be less than 100°. This is far from the truth, as I have found many cells where an angle was considerably less than this." We have also got a large number of impressions taken direct from the comb showing that Langstroth is right. Some combs which we last year exhibited at the Conversazione of the British Bee-Keepers' Association had several rows of perfectly square cells which would represent angles of 90°.

Referring to the number of cells to the square inch, he says, "A recent English author, after stating the diameter of the cells, adds, 'The statement, many times made, that 25 and 16 of these respectively is erroneous, as they are not square.' He says these are 28 13-15 and 18 178-375. After many counts he thinks he should have used his eyes rather than his mathematics, for he finds worker-cells per square inch vary from 25 to 29, and drone-cells from 17 to 19 per square inch. Our English author seems quite to have ignored the fact that because of this great variation, and for convenience of calculation, the above figures were adopted as an average."

A very interesting paragraph on pollen and propolis concludes the first part of the work, which occupies 163 pages. It is not rambling and spun out like the writings of some authors, but is concise, clear, and contains all of any value to the bee-keeper. It is also written in a Christian spirit towards those from whom the author differs.

The second part is practical, and is devoted to the management of the apiary. Here the principal hives, appliances, and various methods in use in America are described very fully and illustrated. In this part there is also much new matter added, making it very complete. The Langstroth and Heddon hives have full justice done them, as well as other hives in use in America. Our English bee-keepers will find much useful information, although some of the appliances and methods may not be suited to this country.

All Prof. Cook says as to the management of hives for surplus is as useful for us as for our American friends, but we do not encounter the same difficulties in wintering as they do, therefore we do not need to take the same measures for the protection of our bees. Our methods of open driving and transferring are also simpler than theirs. The chapters following are full of practical information, and from them much may be learned. Honey-plants are treated more completely than in any other work; diseases and enemies of bees, with what is known about them, have also proper attention.

Prof. Cook is the leading scientific authority on all that concerns bees in America, and, as most of our readers know, is a pleasant writer. Being Professor of Entomology at the State Agricultural College in Michigan, he has the opportunity of testing methods and appliances at the experimental apiary attached to the College, some of the advantages of this being apparent in the book before us. Unlike a recent author, who not only jealously withholds the names of many of the inventors or advocates of particular methods, but in many cases claims them as his own, thinking, no doubt, that he is the man, and that wisdom will perish with him, Prof. Cook is scrupulously particular in giving names. This is as it should be, and we think it shows a much more noble spirit to give glory unto whom it is due than to rob those entitled to it. Altogether the work is a great improvement on the former editions, and is one that no bee-keeper should be without.....

BEGINNING.

A Woman's Experience in Keeping Bees.

Written for the American Bee Journal

BY MRS. EMILY CASBON.

You do not know how much pleasure it gives me to read the AMERICAN BEE JOURNAL. I do not set myself up as an example for any one, but I have had a little *actual* experience, and if it will be a benefit to any bee-keepers, they are welcome to it.

In the fall of 1886 I bought a colony of bees. They were in a box-hive nailed securely with a glass in front, and a wooden door on hinges. By the way, the bee-man, of whom I bought them, assured me that it was the very best now made. I had been taking the BEE JOURNAL, consequently I had read of the Langstroth, and knew better.

It was late in October, and the bees did not have stores enough. I fed them some old honey I had, but not sufficient. My feeder was a very common arrangement, being a pie-pan with wire netting arranged like the shape of the pan. I propped it out of the honey just enough to let the bees eat and not get into it. Being a new hand at the business, I did not think to warm the honey, so they would not take it.

I babied those bees worse than any batch of bread I ever made, and I have made a great deal. On Nov. 14, I put those bees into the cellar, having first tacked wire netting over the entrance to keep them in. I visited them every day or two, to ascertain their condition. I cleaned off the bottom-board every little while, and there were lots of dead bees.

Finally one bright February day I took them out and gave them a flight. How they did enjoy it; from 11 a.m. until after 3 p.m. they hummed and buzzed around.

March came, and the combs were getting moldy, and I took my bees out into the yard. I had a large dry-goods box, with one side off. I put the hive on a soap-box in the larger box, and packed all around with clean pine shavings (I took what came first), then I spread an old floor oil-cloth over the front, and let it down in cold, chilly weather, raising it in warm, bright days. I do not think that this colony had one dozen workers. When they began to work in the spring I fed sugar syrup to hasten the brood, and the result was that by the fall I had a hive full of bees and honey, besides some surplus.

This section southwest of Valparaiso is especially adapted for bees, as there are many acres of asters, golden-rod and Spanish-needle, besides other plants. I should like to obtain some bees on shares, as I want to start a new apiary. There are no bees within miles of here, as most of the farmers are engaged in agricultural pursuits, and do not want to bother with them.

I love to work with them. They never sting me, and I have always handled them without gloves, and sometimes without a veil.

Valparaiso, Ind.

WINTER.

Speculation as to What Kind of a One it will Be, etc.

Written for the Western Plowman

BY C. H. DIBBERN.

The season is now over, and the story of 1888, as far as the bee-keeping interests are concerned, is now told. The general result over the United States and Canada is not very satisfactory, although some very good yields are reported. The general average is perhaps a one-fourth crop, but the bees are in much better condition than a year ago. The prospects for another year are also very much better, as the young white clover plants got a good start, and if we have a reasonable amount of snow during the winter, a good crop next year is almost a sure thing. This being assured, we should do now, before steady freezing weather sets in, everything possible to place the bees in the best condition to withstand the rigors of the coming winter.

Do not be caught by the idea that we will have a moderate winter. The only safe way is to expect a severe winter every season in the northern States. There is still a great difference between bee-keepers as to in and out-door wintering; but this question has long since been settled in favor of cellar wintering. It takes but five minutes to carry a hive to the cellar, where, if the condition of the colony is all right, they are almost certain to go through the winter in good condition.

On the other hand, it takes much longer to pack them on the summer stands, and requires a great deal of material, such as boxes, lumber, chaff, straw or leaves, and this again has to be disposed of in the spring. This is much more labor than carrying in and out of the cellar, and then one can never feel very safe about the bees when they become buried under the snow, and the mercury persists in dodging far below zero. At such times one can go into his bee-cellar, and hear the gentle hum of contentment from the hives, and feel assured that it is all right, and go to bed and sleep soundly.

Now as to the time of putting the bees into winter quarters, there is some difference of opinion. It is not best to do so too early, nor will it do to wait too long. We once knew an apiary of 340 colonies to be lost, by leaving them out too long, waiting for a favorable time, which never came, to put them away. The bees ought to be allowed to fly as late as possible, as their confinement will be long enough anyway, and on the other hand they should be removed before ice forms on the combs.

It is not always easy to determine just the right time to do this, and one must study the season, whether it is likely to be early or late. Our rule of late years has been to commence storing the hives as soon after the 20th of November as the bees have had a nice day for a flight. Our practice is to carry in 30 or 40 hives at a time, and the same in carrying them out, as otherwise it gets to be tiresome work, especially if the hives are heavy with honey, as they are this year. It is well to put them 5 or 6 inches from the bottom of the cellar, by placing pieces of scantling under them, or bricks answer the purpose nicely if at hand. Of course we know that some bee-keepers are so situated that they cannot winter in-doors, on account of a low location or having no suitable place. As our numerous experiments in out-door wintering have never been very satisfactory, we will recommend such to study the methods of bee-keepers who have met with better success in this matter.

The Time to Sell Honey.

This is the month in which the honey crop should be closed out. If that is not possible, make it a point to do so before Christmas, as after that time it is usually dull and harder to sell. All the comb honey should be overhauled and scraped of propolis as soon after it comes off the hives, as time can be spared. It should then be graded, and crated in neat, new cases, weighed and marked. All extracting must be finished up early this month, as the honey is hard to remove from the combs in cold weather, and the combs are liable to break.

Apicultural Contemplation.

As we are writing these "notes," and look through the open window at the apiary, the white, blue, red and yellow hives among the trees, whose green and yellow leaves are now fast falling this October afternoon, we cannot help thinking what a pretty scene it is! What a study, pleasure, profit—yes, and it is hard work, too! We have other large interests in the commercial world, but there is nothing we would rather do than to keep bees, and that is what we expect to do in our declining years. Work becomes a pleasure and a study when one learns from nature as we go along. To discover new principles, new methods, and new facts one's own self, is like exploring some unknown country, interesting, fascinating, but never satisfied. Something new and unknown, that appears to be hidden just beyond the distant hills, is ever leading onward and upward.

Extracting Honey from Brood-Frames

Lately we have extracted considerable honey from outside brood-combs, which with us are solid with very nice honey, and replacing the empty combs near the center of the hives. This is particular work, and requires judgment and tact, otherwise the robber bees would soon have possession of the apiary. It is easy enough to take the combs away from the bees, but when the combs from which most of the honey has been extracted, are returned, it causes great excitement, and soon attracts the robbers. We found that about the only time we could do this kind of work was late in the afternoon, about an hour or two before dark. By having a number of empty combs they could be exchanged for full ones, and the confusion would all be over before morning. With wire screen doors and windows, the extracting can be done any time during the day. Some of this honey was put up in pint, quart, and half gallon Mason jars. We found that by exposing these to the sun for a week or two, the color of the honey became much lighter, and the quality was also much improved.

Milan, Ills.

THE CELLAR.

Ingenious Harness Used for Carrying Bee-Hives.

Written for Gleanings in Bee-Culture
BY G. M. DOOLITTLE.

I am asked to give an article on the above subject; and as the asker puts his query in the shape of several questions, I think it best to answer them by number, in the order they are put.

First, he says, "I should like to know how I can place the bees in the cellar without disturbing them." This is nearly an impossibility, as far as not arousing them at all is concerned, for bees are sensitive to the least movement of their home, and, no matter how still it may be done, if done times enough the result always is a restless colony. But, practically speaking, bees can be set in the cellar without disturbance, or, in other words, not be disturbed enough so that it is noticeable, or to do any harm. In fact, I am not sure that a disturbance, so great as to cause them to come out all over the front of the hive after they are in the cellar, does any harm, yet I prefer not to so disturb them.

I have two ways of carrying the bees to the cellar: one of which is, to get a strap of the harness-maker, or otherwise, long enough to go over my shoulders, and reach the cleat that goes around the top of the hive, or the hand-holes, if cleats are not used, so that the hive may be held up in about the position that it would naturally be when carried in the hands. Now get two large snaps, such as are used on the breast-straps of heavy harness, and have them sowed, one on each end of the strap. After this is done, take out the tongues, or snap part, of each, and file the projecting hook part of the snaps to a sharp point, when your strap is ready. On going to the hive, throw the strap over the shoulders, and, on stooping down, hitch the sharp points of the snaps into the cleats, or hand-holes, of the hive, and straighten up, thus lifting the hive by the shoulders, instead of the arms. With the hands, keep the hive away from the body, and thus you can carry it as still as you please.

The other way, and the best one for all not physically strong, is to get a spring wheelbarrow, and on this place a sawdust cushion, such as is used over the hives in winter; or, in the absence of this, put on several thicknesses of old carpet, or horse-blankets, and on this set the hive, when it can be wheeled right into the cellar, if the cellar is built as it should be, or to the cellar-door, in any event. In this way no serious disturbance should be caused, if set on and off the wheelbarrow as they should be.

Secondly, he says, "I want to raise them an inch off the bottom-board." This is as it should be, only, instead of an inch, I prefer that the distance be 2 inches, or, better still, the whole height of the hive. By this, I mean to let the bottom edges of one hive rest on the top edges of two other hives, so that there is an open space, the size of a hive, under each hive except the bottom ones.

To explain more fully: I first carry into the cellar some bottom-boards, placing them on the cellar bottom nearly as far apart as the width of a hive. On these bottom-boards I place a 2-inch rim, and on these rims I place the first tier of hives, which leaves the hives a little too close for a hive to stand between them. Now, in setting in the next tier, they are set on the other hives, so as to come over this space between the hives below, they resting on the edges of the hives below, as I said at first, the next tier setting over the empty spaces between the last, and so on until the top of the cellar is reached. To keep the dead bees, etc., from soiling the cushions and hives below, newspapers are spread over them before the next tier is set on top. I believe this is something similar to the way friend Boardman winters his bees. In any event, I like the plan very much.

When to Carry Bees Into the Cellar.

Thirdly he asks, "Is it best to carry them in in the daytime or after dark?" As to this matter, I do not know that it makes any difference with the bees. The only thing to be considered is the convenience of the operator, and the prospect of what the weather will be on the following day. I have frequently carried in my bees on a moonlight evening, when I feared it might rain the next morning, for I consider it a great disadvantage to have the hives set in the cellar when dry. At other times I have risen at 4 o'clock in the morning and set the bees in before daylight, getting them in just as it was commencing to rain; still, the most of the setting-in has been done by daylight, thus having the advantage as far as seeing is concerned.

Fourthly he asks, "Should the weather be cold or warm, when the bees are set in?" I used to think that the weather should be cold, in order that the bees need not fly out of the hive if they were disturbed, fearing that they would disturb easier in warm weather than in cold; but after an experience of the past five years, I now say, set them in when the outside air is nearly or of the same temperature of that in the cellar, if possible, and never when the hives are full of frost, and frozen down, if it can be avoided.

Where hives are frozen down to the bottom-boards, and the outsides of them covered with snow and ice, it is the worst time possible to carry them in; while getting them in at such a time without disturbing them is out of the question, for each hive will come up from the bottom-board with such a shock that all the bees in the hive are at once aroused. The proper temperature in which to set them in is from 35° to 50°; but as this cannot always be obtained, from 30° to 35° will do very well.

In closing, I will say that the time of year in which to set bees in the cellar is from Oct. 25 to Nov. 20, according to latitude, and not in December, as used to be advocated.

Borodino, N. Y.

KENTUCKY.

Some of the Good Results of the Past Season.

Written for the American Bee Journal
BY GEO. W. MORRIS.

My report for the past season is as follows:

My 11 colonies of Italian bees wintered without loss. They bred up early, and began to swarm early in May, but I checked swarming as much as possible by extracting. All the surplus obtained in June was honey-dew, amounting to 500 pounds. This honey is dark, and not very well flavored. Bees ceased to gather it about June 20.

With the exception of the clovers, sunflowers, and some other bloom, all of which was very scarce, bees had no forage until the asters commenced to bloom, about Sept. 20, when they rallied and gave me a surplus of 400 pounds of as pretty white honey as I ever saw.

My apiary has produced the following results this season: Four hundred pounds of white honey, at 12½ cents, $50; 500 pounds of honey-dew honey at 10 cents, $50; for queens, $18; and for 6 swarms, $12, making a total of $130.

This is the second season that the asters have given much surplus in this locality, last season being the first. I have been noticing it for about six years, and it is increasing very rapidly, and bids fair to outstrip all other pasturage for bees, especially as fall pasturage, and for extracted honey, because bees can gather and store honey when it is too cool to build comb.

I believe it would pay me to cultivate sunflowers by the acre, and have them bloom in August and September,

in order to keep my bees built up strong for the fall crop. I planted one row of them in the garden this season, and the bees worked on them at least four weeks, as busily as ever they worked on Alsike clover in this locality. If any know of a better substitute for bee-pasturage than the above plant, I would be glad to hear from them through the BEE JOURNAL.

The prospect now for white clover is much better than it was one year ago in this locality. My bees paid me better than any yet heard from in this State the past season.

Cornishville, Ky., Nov. 1, 1888.

CARNIOLANS.

The Value of Carniolan Bees—They are Not Robbers.

Written for the American Bee Journal
BY S. W. MORRISON, M. D.

For the introduction of Carniolan bees into this country, Mr. Benton deserves the gratitude of all bee-keepers. As having the largest experience in the United States with Carniolans, I am entitled to express my opinion of them at this time, the close of the third summer with 50 colonies.

The most notable new trait about them is, their freedom from the disposition to "rob," or their vigilance in guarding their hives. With 200 nuclei colonies, daily exposure of their combs, and a poor honey season, it is remarkable that I have not had a single colony robbed. Such freedom from robbing never happened to me when I had Italians.

I am still convinced that Carniolans are better honey-gatherers than Italians, Cyprians or Syrians; and as for gentleness, I have little use for smokers, and many colonies can be handled with the same impunity as if they were so many flies.

In the issue for Nov. 7 is published a complaint against Mr. Frank Benton, which is certainly unjust. Mr. Benton may see the article, or he may not. Many will read it who will not see the reply he makes to correct it, and thus a wrong is done him which he can never correct. I have had probably more business transactions with Mr. Benton during the past five years than any other person in the United States, and I can vouch for his honesty and promptness.

Mr. Benton left Munich in the spring of 1887, I think, and spent the winter of 1887–88 in Laibach, Province of Carniola, Austria, because he could not afford to incur the expense of the return to Munich. His last letter to me was dated at Laibach, Sept. 29; in it he stated that he expected to spend the winter elsewhere, but did not give me his address. Registered letters only will be forwarded to him. It is fair to suppose that Major Shallard's letters never reached Mr. Benton.

Oxford, Pa.

[No injury to Mr. Benton was intended by the publication of the complaint—just the reverse, it gives him a chance to fix the matter up. The fact of his moving after Sept. 29, 1888, has no relation to the previous fact that Major Shallard has been writing him for over two years, and can get nothing but an acknowledgement for the money sent. We sent him a marked copy of the JOURNAL containing the article, and we hope that he will be able to fully explain the cause of the delay. Publishing the matter will be a benefit to him, then.

Since the above was in type, we notice an article on Carniolan queens in the *British Bee Journal*, written by Mr. Benton, and dated at Laibach, Oct. 19, 1888, nearly a month later than the date given by Dr. Morrison. He will probably receive the marked copy we mailed to him.—ED.]

BEES AND ODORS.

Robbing Stopped by the Use of Musk and Peppermint.

Written for the Country Gentleman
BY A COUNTRY PARSON.

Twenty-five years ago I began bee-keeping with a row of hives, all painted alike, and placed close together, say 12 inches apart. This likeness and nearness of hives, together with my work and fussing, soon brought on the calamity—robbing right and left, stealing, fighting and killing, until some of the hives were empty, and the ground covered with dead bees. I rushed to my library, and then tried the plans prescribed as infallible remedies — tied them up in sheets; deluged them with water; buried them in loose straw; smashed the robbers' combs; put them to sleep with chloroform; shifted positions of hives. But they still fought and robbed, and killed like little demons.

Then I sat down to study out a remedy, or to see the end of the Kilkenny-cat process. I soon found the difficulty to be in this—that the robbed bees could not distinguish between the friends in their own family and their enemies from other families. I could tell which were robbers from their hesitating flight about the entrance of the doomed hive. The home bees came in like an arrow from a bow. The robbers hesitated, backed and filled, and seemed watching for a chance to get in. But of this sign the home guard seemed to take no notice. From this I concluded that they did not discriminate by sight.

In this way I went on to eliminate the different senses from their method of discrimination, until at last I reached the conclusion that the sense of smell was their chief, if not their only dependence.

But to return to our robbers. The guards are on duty at the entrance of the hive. The robber lands on the alighting-board. He either steals in unobserved, or is challenged. If he has been in the hive often enough to have acquired the right odor, he is admitted as a friend. If the scent is not clear, he is doubted, and there is hesitation. If he brings a brand-new and strange odor, he is "bounced," and a fight begins that generally ends in the death of the bouncer or bounced.

This suggested the remedy. I took some musk, wrapped it loosely in muslin and covered the package with wire-netting, for fear the bees might eat it and get poisoned, or tear it to pieces and carry it out of the hive. This little package, about 1 inch long and ½ inch in diameter, I dropped in the midst of the combs of the *robbed* hive.

The next step was to get a contrasting and strong odor for the robber hive. I selected essence of peppermint, diluted an ounce of it with a pint of milk-warm water, borrowed my wife's in-door plant sprinkler, uncovered the robbing hives, and gave them a dash of their perfumery.

It is not easy to laugh alone, but I did laugh out long and loud when I saw the result. The musk guards waited in alert expectancy. A peppermint robber began to buzz around, but the musk fellow detected its presence, and followed every motion of the peppermint adversary, by turning his belligerent front, when the robber was at least 12 inches distant. And when he would venture within 2 or 3 inches of the vigilant musker, the guard would fairly leap at him and catch him "on the wing." There was no room for light, and no killing. The alien peppermint robber would flee with the cowardice of his profession.

It is no exaggeration to say that within five minutes the whole thing was stopped, and for good. The remedy is effective, and can be applied with little trouble, and not more than two minutes of time.

Staten Island, N. Y.

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Nov. 21, 22.—Pan-Handle, at Wheeling, W. Va.
W. L. Kinsey, Sec., Blaine, O.

Dec. 11-13.—New York State, at Syracuse, N. Y.
G. H. Knickerbocker, Sec., Pine Plains, N. Y.

Dec. 12, 13.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

1889.

Jan. 9-11.—Nebraska State, at Lincoln, Nebr.
J. N. Heater, Sec., Columbus, Nebr.

May 4.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Bees in Winter Quarters.—J. W. Tefft, Collamer, N. Y., on Oct. 30, 1888, writes as follows:

For once I have been fortunate. I had my bees all packed for winter on the summer stands by Oct. 1. Had I not done so, I do not think I could have done it by this time, for nothing seems to come but rain. The temperature has for the past thirty days been as low as 28°, and only on three days has it been up to 60°, and then only between the hours of 12 and 3. I have not seen a bee flying except on three days when it was 60°. We have nothing to do but saw wood and keep out of the mud, which is "too sott to walk upon, and too thin to swim in," which makes it very inconvenient to navigate.

Small Increase, etc.—John Moller, Fremont, Nebr., on Nov. 12, 1888, writes:

I have had a very small increase in colonies during the past summer, and not much honey until the fall gathering. I have obtained 2,000 pounds from 50 colonies.

Southern Aster Honey.—W. H. Prior, Madison, Ga., on Nov. 12, 1888, writes as follows:

I send a wild flower and stem of the same (I think an aster), which has proved to be by far the best honey-producer as to both quantity and quality that we have had during the entire year. It made its appearance here some 20 years ago, and has been spreading gradually until this year, and to use an old and familiar expression, "The whole face of the earth was covered with it." In fact it was everywhere, along the road side, in every old field, and could be seen everywhere except on land that was in cultivation. It is commonly known as "The last flower of summer," or "Farewell summer." It began opening about Oct. 10 this year, and has continued up to the present time.

We had our first frost this morning, giving us a very late fall. This flower came up all among the golden-rod, and towered above it with beautiful white flowers. As soon as it began opening, the bees left the golden-rod and began working on it. I have one colony, and by no means a full colony, that has stored, with only starters, 20 pounds of nice comb honey in pound sections, since Oct. 12. My 18 colonies averaged 20 pounds of honey per colony in October. Had I expected the honey-flow, I could have secured 25 pounds per colony, just as easily. We had a rain of more than a week beginning about Oct. 20, that cut us short about one-third of a crop.

I began bee-keeping last spring with 5 weak colonies of black bees in box-hives; now I have 18 colonies of Italian bees in movable frame hives (having bought 12 queens and reared 6), with plenty of honey for winter, besides 25 pounds of comb honey extra per colony, spring count. How will that do for a beginner?

Thinking that it would be something of a novelty for the editor, away up in Chicago, to eat honey gathered from flowers in the month of November, as well as for him to see a good quality of Southern honey, I have sent him by express a pound section that was taken from the hive on Saturday, Nov. 10, just finished by the bees. This was gathered from the white flower mentioned above. I will ask the editor to tell me what he thinks of the honey, and to name the flower.

[The flower is from an *Aster tradescanti*, sometimes called the "Michaelmas daisy," and produces excellent honey of light amber color, and fine flavor. The sample of honey came, all mashed up, with about an ounce of honey on the paper, the comb being all drained dry. This shows what care is taken of small packages by the express companies.—ED.]

Results of the Season.—S. Burton, Eureka, Ills., on Nov. 12, 1888, writes:

I commenced with 14 colonies of bees last spring, 10 colonies being strong, and 4 weak. I had 18 swarms, 4 of which went to the woods, leaving me 14 new colonies. I bought 4 colonies, so I now have 32. All are packed on the summer stands with a shed over them facing the east and south, packed with straw behind and between them; with sticks across the frames, burlap over the sticks, a cushion of leaves on top of that, and then the hive-cover. My crop of honey was gathered after Aug. 20. I got about 300 pounds of surplus in one-pound sections, and the bees have their hives well filled for winter. I am getting the bee-fever. I want to have 100 colonies of bees as soon as I can, as I am the only one that has any bees to amount to anything here.

Getting Rid of Ants.—Byron Benton, Bronson, Mich., on Nov. 13, 1888, writes as follows:

My way of getting rid of ants in bee-hives is to kill what I can, and then place green catnip over the brood where the ants gather, which I find drives them away effectually. There must be a great loss of bees here this winter among such bee-men that have not fed their bees.

The Michigan Convention.—President Geo. E. Hilton, of Fremont, Mich., writes as follows concerning the coming meeting of the State Convention:

The Michigan State Bee-Keepers' Association hold their next annual meeting at Jackson, Mich., on Dec. 12 and 13, 1888. While the season has been far from encouraging, we want to give a cordial invitation to all within reach of the association, to favor us with their presence; and I can assure all, that we will have subjects for discussion that will be encouraging, for Michigan is not going to lose her record of holding the "Convention of the Continent," and we expect to send all home with "Nil desperandum" as their motto.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lbs., 18@19c.; 2-lbs., 16@17c. Good dark 1-lbs., 15@16c.; 2-lbs., 13@14c. Buckwheat 1-lbs., 14@15c.; 2-lbs., 12@12½c.—Extracted, 7@9c., depending upon quality and style of package. Receipts increasing, but demand still limited. Stock is not selling as freely this season as a year ago.

BEESWAX.—22c.

Nov. 13. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—For white comb 1-lbs., 18c. Very little inquiry for anything outside of 1-lbs., and when it is wanted it is at a lower price. Extracted, the best grades, 7@8c., and some held higher. Offerings are small and demand slow.

BEESWAX.—22c. R. A. BURNETT,

Sep. 12. 161 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 18@20c.; 2-lbs., 16@18c. Good dark 1-lbs., 16@18c.; 2-lbs., 15 to 16c.; fair 1-lbs., 12½@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 8@9½c.; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.

BEESWAX.—22@23c.

Oct. 25. A. V. BISHOP, 142 W. Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c.; 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.

BEESWAX.—23½c.

Sep. 17. THURBER, WHYLAND & CO

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 17@18c.; 2-lbs., 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8½c.; buckwheat, 5½@6½b.; California extracted, white sage, 7½@7¾c.; amber, 7¼@7½. Demand good and prices firm. New comb honey is arriving quite freely.

BEESWAX.—23@23½c.

HILDRETH BROS. & SEGELKEN,

Oct. 10. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 11@12½c.; 2-lbs., 12½@1 c.; amber, 8@10c. Extracted, white, 5¾@6c.; light amber, 5¼@5½c.; amber and candied, 4½@5c. Receipts light and market firm for best qualities.

BEESWAX.—Dull at 19@22½c

Sep. 22. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white comb, 17@18c.; dark, 16c.—Extracted, 8@10c. Market bare of all kinds.

BEESWAX.—21@22c.

Sep. 24. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb. Best white comb honey, 16c. Demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Nov. 12. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.

BEESWAX.—None in market.

Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c.; light amber in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.

Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The receipts are very light, and honey sells fairly well.

Nov. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs. 17@18c.; dark, 14@15c.; California white 1-lbs., 17c.; dark, 14c. Extracted white 8c.; amber, 7c.

BEESWAX.—None in the market.

Oct. 11. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted in barrels, 5@6c., according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.

BEESWAX.—21c. for prime.

Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6½ cents; light amber, 6@6½c.; amber, 5½c. Comb, white 1-lbs., 13@14c.; 2-lbs., 13c. Light amber 1-lbs., 12@13c.; 2-lbs., 11@12c. Demand very active for extracted, and fair for comb honey.

BEESWAX.—20@21c.

Nov. 6. SCHACHT & LEMCKE, 122-124 Davis St.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Nov. 28, 1888. No. 48.

EDITORIAL BUZZINGS.

To Kiss her cheek! as honey fine
The bee from rose or eglantine
Doth sip, so I from dimple cute
Would taste of love's delicious wine!
What could a knight (or bee) compute
Dearer than such delight divine?

Pure ammonia is a good remedy for bee-stings.

We Regret to learn that Mr. John G. Smith, Secretary of the Central Illinois Bee-Keepers' Society, met with an accident on his way home from the Clayton Convention. While on the train between Bluff City and Barry, a cinder lodged in his eye, which caused him severe pain for several days. Since then he has been indisposed from the results of a severe cold in the head. His many friends will be sorry to learn these particulars of his illness, and with us will no doubt offer him their sympathy.

A Correspondent in central New York writes us concerning the complaint against Mr. McCaul, published on page 750, and states that he is still doing business at 122 Water Street, New York. We have written to him, at that address, calling for a settlement for the Florida honey, and await a reply. Our correspondent adds: "Mr. McCaul has sold hundreds of dollars worth of honey for me, and always rendered an accurate account, at good prices." If he will do the same for the Florida honey, and satisfactorily explain the cause of the delay in remitting for it, after having sold it for cash long ago, Alderman & Roberts will no doubt be very glad to state the fact as publicly as they made the complaint.

Why was Mr. Doolittle Not There?—That question is often asked about bee-conventions, but it has never been publicly answered. We have known the reason for some years, and when Mr. Doolittle's name was mentioned for President of the International at Columbus, we suggested that Mr. Doolittle was not a member, and was therefore not eligible. We did this to have his name dropped, and still not give the *real* reason. Then one enthusiastic member paid the dues for his friend Mr. Doolittle, so as to make him eligible to the office. This made it necessary to take another tack, for we had never felt authorized to state the true reason. The result was that Dr. Mason was re-elected.

Then our friend Doolittle wrote to us asking why his name appeared among the members, when he had not paid any dues. We replied with the above facts, and this is his reply:

FRIEND NEWMAN:—Your letter regarding to how I came to be a member of the North American Bee-Keepers' Association is at hand. Thanks to that friend who so kindly paid my membership fee, but I am sincerely glad that I was not made President. If anything of the kind ever again comes up where you are, please say for me that I cannot accept the office on any account. I have a heart trouble that excitement makes much worse, and being away from home at conventions, etc., puts me in such a condition that I am wholly unfitted to assume any office, or take any comfort in the proceedings of a convention. For this reason I have staid at home, of late.

G. M. DOOLITTLE.

As the above question is so often asked, we take the liberty of publishing friend Doolittle's letter, without his knowledge or consent, just to reply to the many similar inquiries to the one at the head of this article, which are so frequently propounded. We know of no one more worthy of the honor of being President of the "International," and so stated at the convention, but his wishes should be consulted. In the higher sense we know his "heart is right," even if physically he has a "heart trouble"—which has not been generally known till this announcement.

Gone to California.—Our friend A. J. Root has taken his departure for California, going by way of New Orleans, for a six weeks' sojourn. *Gleanings* for Nov. 15, says that he left on the 12th inst., and then it adds:

He has worked long and hard at his post; and while some of us at home will have to work a little harder, perhaps, in his absence, it is a pleasure to us to think that he has now arrived at that point in life when he can take this change and rest, which he so richly deserves. He will furnish notes of travel by the way, besides telling of that great bee-country—California—a country whose resources seem boundless, and about which we bee-keepers of the East know comparatively little.

The Appeal in the lawsuit against Z. A. Clark, of Arkadelphia, Ark., was to be called for Monday, the 26th inst. In our next issue we hope to be able to record some good news concerning it.

Governmental Statistics.—At the late meeting of the National Board of Trade, a resolution was presented recommending the "discontinuance of monthly crop bulletins by the department of agriculture, as their only effect had been to disturb the world's markets without giving any reliable information." One of the members remarked as follows:

The statistician of the department has been continually representing the annual produce of grain in this country as enormously in excess of what it was. The report of last year was so ambiguous in its language that nobody could understand it, particularly that part concerning the wheat crop. The Secretary of the Chicago Board of Trade endeavored to ascertain what this meant, and had made frequent interrogations. The statistician, for instance, represented in his returns that the spring wheat crop last June was 13 bushels to the acre.

Now, the average produce per acre was 12 bushels. The fact was that the spring wheat crop was more than a month late last year, and was far behind the average. A farmer in Indiana reads the reports of the statistician, and makes up his mind that there is a big crop in the country, and that he will sell all he has got. He finds out, when it is too late, that the crop is meager, and that he has lost heavily. The returns of last year, prepared in the month of December, showed a produce of 11,000,000 bushels in excess of the later and perfected returns prepared three months afterward. The result of the whole thing was encouragement for the operations of English bears, and injurious to American agriculture.

After some discussion a substitute resolution was adopted, which provides for the establishment of reporting agencies throughout the country, which will collect and furnish to the bureau all the necessary information regarding the crops of the country, and provides several other improvements in the machinery of the department.

This is similar to the work undertaken by apiarists, after waiting some time for the governmental reports through the statistician, on bee and honey statistics.

☞ **The National Bee-Keepers' Union** fiscal year has heretofore ended on June 30. Sometime since it was proposed to have it end with the calendar year. It was submitted to vote, and every vote so far received is of the same tenor as the following from Mr. H. K. Staley, Pleasant Ridge, Ohio:

At the request of the Manager of the Bee-Keepers' Union, for the members to vote on the proposed change for the paying of the annual dues from June to January, I vote in the positive, or in other words, I favor the change.

If any one wants to vote in the negative, please let it come at once; if none are received by Dec. 10, the motion will be declared to be carried, and the change made accordingly, by consent.

This change will make the time for paying dues and voting for officers come on Jan. 1, and blanks will be sent out on Dec. 15, for that object—unless somebody votes against the change.

GLEAMS OF NEWS.

Preparing Bees for Winter.—Mrs. L. Harrison describes some of her experiences while preparing her bees for winter, in the *Prairie Farmer*. She says that she found the bees in fine condition, the colonies being very populous, with a sufficiency of sealed honey for winter stores. She then adds :

Although the weather is fine and warm for working out-of-doors, it would have been better to have fixed them up earlier, for as long as they can gather honey they are easily handled ; but when there is none to gather, they are on the war-path with the least provocation. Bees act very differently on a cold day than on a warm one, when smoke is blown upon them. On a warm day, when smoke is blown upon them, they rush down among the combs and fill their sacs with honey, when they are as good-natured as a fat alderman after dinner ; but when it is cold, they rush into the smoke and right into the fire, if they can gain access to it, and perish.

This is one reason why bees are so cross when there is no honey in the fields. Let a hive be opened on these mild, warm days, when bees are on the wing, and robbers will soon appear. Their clarion note soon arouses the colony, which will be on the defensive, and stinging everything within reach. The dog will be off with a roll and a howl, biting and scratching ; the cat will dart up a tree with her tail as large as a rolling-pin, while the chickens scratch their combs with their feet,and seek shelter under weeds and bushes. To avoid this I open and fix up colonies in the early morning, before there are any bees flying, and if I am very careful not to jar or knock the hive, I can get through with quite a number without the use of smoke, or robbing induced.

There has been but a small amount of surplus honey secured this year, but what has been secured is in good condition. Some years there is a little honey scattered through many sections—little patches of sealed honey not larger than a dollar in the center of some—but, this year, whatever they undertook, they finished up in good shape. Those sections last year that had little patches of honey in them, were uncapped, extracted, and stored away for use this year. Now we find that they have been put to good use.

The Same Old Queen, more than 40 years old ! This is what the old Californian, Wall, tells about the age of a queen-bee. The Napa *Register* gives this laughable account of the old "Forty-niner :"

Many are familiar with Mr. Wall's extraordinary feat, in 1849, of driving (according to his statement) a swarm of bees across the plains. A day or two since, as one of our business men was coming down town, he happened to discover a huge bee quietly resting on Wall's shoulder, as preparations were being made to sprinkle the Court House lawn. "Say,Wall,what are you going to do with that bee on your shoulder ?"

Wall was startled for a moment, but, recovering his usual composure, spoke with gravity, carrying convictions of untarnishable truth, "I'll tell you. That bee is the queen of the swarm that I drove across the plains. She has been hunting me for years, and knew me the moment I call her name. You see, she is getting a little gray, but I know her on sight. She piloted the swarm, and I used to feed her from my own molasses can. That bee is the last of her race, and I shall take care of her in her old age. I tell you, John, that bee brings up many reminiscences of that memorable trip. Several times that swarm stood by me in an hour of peril. They could scent an Indian several miles away, and they got to really enjoy an Indian attack. The fact is, they understood tactics as well as the best trained soldiers. When the queen sounded an alarm, every bee was under arms, ready for fight. First a skirmish line was thrown out, and you could see more or less uneasiness among the redskins as one and another would claw about his ears, eyes, or nose, but when the order to 'charge' was sounded, and the bee-battalions began to move in 'double-quick,' a rout and stampede always followed. It is a fact, John. Those bees fought all of my battles across the plains, and this is my 'old queen' sure enough."

Do Not Sell all the honey you have. Keep what is necessary for use in the family. Mr. C. H. Dibbern tells some of his experience in this connection in the *Western Plowman* in these words :

I have no patience with that class of bee-keepers who think they cannot afford to eat honey and supply it on their tables. I well remember when I was a boy, working out during vacation, how carefully I attended a few colonies of bees in the old way ; how I hived them, and put on the boxes, for the owner, who was afraid of them ; how anxiously I watched the white combs through the little piece of glass as they neared completion ; how finally the eventful time came, and one evening I removed the boxes (we knew nothing about sections then) from the hives. I left the boxes near the hives over night, so that the bees could run back during the night, which was the common practice then. As there were still some bees in them next morning, they were removed to the cellar, leaving the door slightly open, so that the bees could find their way out.

Like a boy, I had been anticipating the "good time coming" when we would be feasting on honey. I waited patiently for some days after this, for the appearance on the table of the beautiful comb honey, but none came. Finally I ventured to ask what had become of the honey, when I was informed that it had all been taken to town and sold ; that they could not afford to eat honey when they could get 15 cents per pound for it. I said nothing, but thought a great deal for a long time ; in fact, I have not got over it yet, although I have produced carloads of honey since.

DARK OR FALL HONEY.—Late honey, which is usually dark, or in some localities of a golden color, should be sold, whether extracted or in the comb, for just what it is. If you have any "honey-dew" or poor trash, do not try and work it off by hiding it in the middle of the cases, and exposing only nice white combs. Such practice may be sharp, but it is dishonest, nevertheless, and it will be sure to re-act on the guilty bee-keeper. Such usually find their home market "played out," and have to resort to shipping.

PARTLY-FILLED SECTIONS.—Partly-filled sections should be extracted before it gets very cold, as the honey soon gets too thick to run freely. I used to consider these empty combs of great value for use the next season, but nice comb foundation has changed all this. I now cut out all combs that have been extracted, and melt them up by placing them in a large dish-pan over a pot of boiling water. When all is melted, let it cool, and you will have a nice cake of wax, and some very nice honey.

USE NO SOILED SECTIONS.—Burn up all sections that are not nice and clean. It is poor economy to have nice white honey stored in old dirty boxes. If we wish to hold our customers for our honey, we must always have it in the best possible condition.

Colors and Bees.—In *Vick's Magazine* for October we find the following on flower colors and their visitors, the bees :

All through creation appears a considerateness, a taking thought for the pleasures of slight beings, very moving and comforting to see. Not a wood-tick or red spider, or hard working bee but is meant to be happy as well as useful, and while we take the world with a sublime conceit of its being all for us, we find that certain pleasures were designed peculiarly for insignificant beings on whom we do not waste a thought.

If the flowers are dyed in every warm, enticing hue, it is not for us alone, but to draw the honey-seeking insects which have a fine eye for color.

To test this power in bees, Sir John Lubbock tried a pretty experiment, placing some honey on a slip of glass laid on blue paper outside his study window, and when a bee had made several journeys and become used to the color, laying an orange slip with honey in its place, and the blue further away. The bee came back, finding the honey in the same spot, but it preferred the blue color, and pausing a moment darted for the blue paper.

The Cause of Failure of the honey crop for 1888 is thus stated in the *Michigan Farmer* for last week :

The Central Michigan Bee-Keepers' Association ascribed the cause of the failure in the honey crop to the following reasons : The bees have been remarkably free from all disorders. The trouble lay in the failure of nature to properly perform her duty. The chalices of flowers, from which the bees collect the sweet semi-fluid substance contained but little nectar. A close observer states that the absence of this substance was due to the atmosphere and the direction of the winds. North, northeast, and east winds are very destructive to the honey-flow, and during the past season almost continued winds from these directions prevailed, together with a dry, harsh atmosphere. The best flow of honey is secured by a southwest wind, and a west wind is the next most favorable. A damp, warm, balmy atmosphere is essential to successful bee-culture.

A Living Mouse smothered in honey is a great delicacy in China, as appears from the following item in an exchange :

If you were a Chinese girl, remarked a Celestial nobleman belonging to the Chinese mission, and wanted to give some one a great delicacy, you would get two young baby mice, blind and unable to crawl, and place them before your guest alive on a plate. He would dip each living morsel in a dish of honey and envelop it in a sugary shroud before popping it into his mouth. The dying squeak of the poor little atom is the sauce piquante of this favorite dish in China.

Magnificent Increase.—Mr. John Kentch, Tioga, Pa., writes to *Gleanings* that he has obtained 278 bushels of Japanese buckwheat seed from 2 pounds of seed in two seasons. He says :

One year ago last spring I bought 2 pounds of Japanese buckwheat, which I sowed on July 5, 1887, from which I harvested 8 bushels and one peck of good buckwheat. On July 3 of this year, I sowed 4 bushels of it on 6½ acres of ground. It promised to be a big yield, but the frost of Sept. 6 and 7 cut it short. I cut it right away after the frost, and set it up. I threshed it Oct. 11, and got 278 bushels of good, clean buckwheat.

"Moisture and its relation to wintering bees," is the special subject matter of the last issue of the *Bee-Keepers' Review*. The editor sums it up thus :

The burden of the testimony is that moisture plays but an unimportant part in the wintering of bees, except as it relates to temperature. But little moisture is required to saturate cold air ; that is, it will absorb but little moisture, the point when it will receive no more being soon reached. As the temperature rises, the absorbing capacity of the air increases. When air of a high temperature, at that of our bodies, or nearly that, is saturated, or nearly so, with moisture, the exhalations from the lungs and skin are taken up but slowly ; we are oppressed, and say the weather is "muggy." This explains why we feel better on bright, clear days. Heating air increases its power of absorption, hence we enjoy a fire upon a damp day. If the air of a cellar is dry, it will be readily seen that the temperature may be allowed to go much lower. In other words, a cold, dry atmosphere, or a warm, damp one, may be about equal, so far as effects are concerned. We fear this point has not been sufficiently considered. We have had many reports of the successful wintering of bees at such and such a degree of temperature, but nothing is said as to the degree of saturation.

We wish bee-keepers would use a wet-bulb thermometer in their cellars ; it would not be the work of half an hour to arrange one ; then let the degree of saturation be given with that of the temperature, and we will have something approaching accuracy. We say "approaching accuracy," because the strength of the colonies and the manner in which they are protected, have a bearing. A populous, well-protected colony can warm up the inside of the hive, expelling the moisture and increasing the absorbing capacity of the enclosed air. Building a fire in a room on a damp day is the same in principle.

While it is true that moisture may be brought into the cellar with air from the outside, we do not think this is the case in the freezing cold of winter. Frozen air, if the expression is allowable, has a very low point of saturation. That is, it will hold but very little moisture ; and when it is brought into the higher temperature of the cellar its capacity for absorption is greatly increased—it is ready to receive water instead of giving it out. When the outside air comes into a cellar and deposits moisture upon the objects therein, it is evident that the incoming air is warm and moisture laden—warmer than the cellar and its contents. Mold in bee-repositories is usually looked upon as something undesirable, and we will admit that its appearance is far from pleasant, but we must not forget that, in a certain sense, it is a plant—the child of warmth and moisture—and that the conditions necessary for its development may not be injurious to the bees—*may* be more beneficial than a condition under which mold does not develop, one of moisture and *cold*.

A very damp cellar ought to be warm enough for the development of mold. But the cellar need not be damp. It can be made both warm and dry. These matters of temperature and moisture are under our control. Either by fires, or by going into the earth, preferably the latter, we can secure the proper temperature ; and by the use of lime to absorb the moisture, a dry atmosphere can be secured. Certainly, it is not much trouble to keep unslacked lime in the cellar. While it is evident that moisture in ordinary cellars is not injurious, provided the temperature is high enough, it is a great comfort to know that there is nothing to fear from a dry atmosphere ; that we can indulge our fancy, if you choose to call it that, for dry, sweet-smelling, moldless cellars, and know that the results will at least be harmless.

First Premium.—In the report of premiums awarded at the Centennial Exposition at Columbus, O., a typographical error occurred, concerning which Dr. Mason writes as follows :

On page 759 is a big blunder, either of mine or the printer, and we are always ready to blame the printer. If it had been in regard to myself, I should have said nothing, but when an old man, that every one who knows him regards with esteem, and took so much pains to help make our State Centennial honey exhibit such a success, is the sufferer, then I want to do all I can to correct the mistake.

In the sixth paragraph, in mentioning the premiums awarded Mr. Aaron Goodrich, it says he "was awarded third premium on a display of comb honey and a display of beeswax." It should read **first premium** on both. He had a fine display of comb honey, and I never saw a nicer display of beeswax at a fair or exposition.

It was an oversight of the printer, and we gladly make the correction to do justice to our aged friend Goodrich, for it was a magnificent display, indeed.

A Portrait of Mr. George E. Hilton will look down over the Paris Exposition next year. The Fremont, Mich., *Indicator* for Nov. 15, 1888, contains the following item about it :

Among the many attractions at the Paris Exposition of 1889, will be an enlarged picture of Geo. E. Hilton's Red, White and Blue Apiary. The work is done by a new process, in the Department of Agriculture at Washington, and at Government expense. Also a crate of honey gathered from the famous willow herb (*Ephilobium angustifolum*). The picture will be exquisitely framed, and the honey exhibited in a black walnut case, after the pattern of George's shipping cases, and made by himself. At the close of the Exposition they will be placed in the Museum at Washington.

Mr. Hilton spent some money for engraving, but it has paid him well. His portrait, and his apiary, too, have been published in nearly all the bee-periodicals of the world. He is well advertised.

A Correspondent from British Columbia makes the following inquires about sweet clover :

1. Will sweet clover blossom when it is grazed with stock the same as white ? 2. What quantity of seed is required per acre? 3. When is the best time to sow it ?

We reply as follows : 1. As it does not bloom until the second season, it will do no harm if it is grazed by cattle during the first season.

2. Six pounds to the acre is about the right quantity to sow.

3. It can be sown at any time, even on the snow in winter. It is excellent for waste places, commons, etc.

At Rest.—Dr. C. C. Miller's mother died at his residence a few days ago, after an illness of nine months. It is a relief to know that her long illness is now over, and that she is released from her sufferings, even though it does sever the dearest of human ties—the most sacred of all earthly affections. Peace to her dust.

It is Refreshing to get a report stating that the past season was the best in twelve years. That is the interesting news given in the following from Mr. H. A. Schultz, of Clontarf, Ont. He says :

This has been a very good season for honey with me, in fact the best in my 12 years of bee-keeping. I am greatly pleased with my crop this year. A few more good seasons like the past one, and I think that I shall be able to say that my bees have paid me back the money I have expended for them, and on their account. To-day we are having a fall of snow, and I am moving my 45 colonies into the bee-house. The past three days were nice and warm, and the bees had a grand final flight before being put into winter quarters. This is the first time that I can put my bees away on full natural stores ; in previous years I had to feed considerable sugar syrup.

A Key to the Families of Insects, by Noble M. Eberhart, B.S., Ph.D. This is the name of an 8-page pamphlet issued by the Popular Publishing Co., at Chicago Lawn, Ills. This Key is the only one of the kind published, and consequently of more value to entomologists than if it was only one of several. Although the matter does not occupy much space, from its nature it is readily seen that years have been spent in its preparation.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

☞ The 23rd annual meeting of the Michigan State Bee-Keepers' Association will be held in the Council Room at Jackson, Mich., on Dec. 12 and 13, 1888. Greatly reduced rates have been secured at the Hurd House, also at the Commercial House (near the Michigan Central depot) at $1.50 and $1.00 per day. A programme is being prepared and excellent essays are already promised. Any bee-keeper having anything new and useful, and finding it impossible to be present, can send it by Express to Jackson, in care of the Secretary, who will place it on exhibition and return it as per orders. Please to come and bring your bee-keeping friends with you.

H. D. CUTTING, *Sec*

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 65
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers..	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

QUERIES & REPLIES.

Spacing Frames in the Brood-Nest.

Written for the American Bee Journal

Query 592.—1. What is the proper or best distance apart to space frames in the hive? I use the Van Deusen metal corners, and my hives take 8 frames spaced ½ an inch apart. 2. Would not 9 frames in the same space be better? 3. If so, why? If not, why not? The queen will only deposit eggs in cells 7-16 deep. I think that the Van Deusen corners are a little too wide, as the bees are apt to build the cells too deep for eggs, and fill them with honey, thus preventing the queen from depositing eggs in them.—S.

Seven-eighths inch top-bars are the usual width. I prefer to space brood-frames 1⅜ inches apart from center to center.—JAMES HEDDON.

1. I use 1½ inches from center to center of the frames. 2. I have no experience with the Van Deusen hive. —G. M. DOOLITTLE.

I have usually used frames 1½ inches from center to center. That satisfies me. I think that a slight variation does no harm.—A. J. COOK.

The distance from the center of one top-bar to the centre of the other should be nearly 1 7-16 inches.—J. P. H. BROWN.

Space your frames just 1 7-16 inches from center to center, and you will be about right for all practical purposes. —H. D. CUTTING.

From center to center brood-frames should be about 1⅜ inches apart. I have usually spaced them 1½, but that is wider than necessary.—M. MAHIN.

1. I space 1½ inches from center to center. I am not authority on questions 2 and 3.—J. M. HAMBAUGH.

1. Eight frames to the foot are what I generally use, but I have used nine. I prefer eight, as it gives more room for the bees, and they are more convenient to handle.—A. B. MASON.

1. One and three-eighths inches or a little less, from center to center. 2. That depends upon the size of your hive. Give each frame from 1¼ to 1⅜ inches from center to center.—R. L. TAYLOR.

As I do not use the metal corners spoken of, and therefore cannot appreciate your difficulty, and as you seem to have reasoned out the matter pretty well, I will not advise.—EUGENE SECOR.

In questions of this kind you should give dimensions of the hive, etc., as many do not know anything about the Van Deusen corners. Frames should be a little less than 1¼ inches from center to center; ten frames in a space of 14¼ inches is about right.—P. L. VIALLON.

1. One and a half inches from center to center. 2. I think not. 3. The queen always has the comb well stocked with eggs and brood before the honey-flow causes the bees to enlarge the combs.—MRS. L. HARRISON.

I use 1⅜ inches from center to center space of brood-combs. As you do not give the size of your hives, I am unable to answer your other questions. —C. H. DIBBERN.

1. I prefer 1⅜ inches for my brood-combs. 2. I would think so. 3. Because the combs are kept straight by reason of there being no surplus room to bulge them out of shape. After looking more carefully at your questions, you leave me in the dark when you say that your frames are ½ inch apart. The proper way is to measure from center to center of the frames.—G. W. DEMAREE.

1. I am not sure. Perhaps 1⅜ inches from center to center. 2. I am inclined to think it would. 3. Because with only 8 frames the space is 1½ inches, which, I think, is too much. I take it that your top-bars are one inch wide. If not, that changes the whole affair.—C. C. MILLER.

1. Usually 1½ inches from center to center. 2. I think nearer spacing would be better. 3. The reasons, therefor, would require more space than can be given here—in fact they would form the text or basis of a long article.—J. E. POND.

1. Three-eights of an inch; in other words, just the width of your fore-finger. 2. Yes. 3. Because the ½ inch is too wide, and the additional frame would decrease the distance. Bees are quite to liable to build comb in spaces any larger than ⅜ of an inch.—WILL M. BARNUM.

1. One and a half inches from center to center. 2. No. 3. Because your combs would be too crowded, and would be gnawed down by the bees wherever there would be too little room. Also, because less bees can cluster between the combs, and they do not keep up the heat so well, etc.—DADANT & SON.

Eight frames to the foot for winter, and nine frames to the foot for summer. Frames closely spaced are more suitable for brood, and less suitable for storage, because of the thinness of the combs; and there is less spare room also when closely spaced than in the old way. This close spacing, as a principle, is known as "the J. E. Pond method," and is quite valuable—J. M. SHUCK.

1. About 1⅜ inches from center to centre is the best distance to space brood-frames, but some use them wider apart, and others even narrower, varying all the way from 1¼ to 1½ inches. Those who use "Van Deusen metal corners" for frames are best qualified to criticise them. Perhaps you are right in your deductions.—THE EDITOR.

Planting Trees for Honey and as Wind-Breaks.

Written for the American Bee Journal

Query 593.—I have 4 or 5 acres that I wish to plant to forest trees. 1. What variety (or varieties) would be the most valuable and hardy? 2. Will the basswood (or linden) grow from cuttings? or what time should the seed be planted, or will they grow from the seed? I want to plant most of the trees next spring, and would like to plant trees that would produce honey as well as make a wind-break and shade.—Iowa.

1. Basswood. Plant small trees.—JAMES HEDDON.

I would recommend basswood. It is best to propagate it from the seed.—J. P. H. BROWN.

I know nothing at all, practically, of the matter.—J. E. POND.

I have had no experience in this line.—H. D. CUTTING.

This can be better answered by some one in your State.—P. L. VIALLON.

Black locust and honey locust, or linden and box-elder.—MRS. L. HARRISON.

I should prefer basswood, and would get the young trees at some nursery. I think that cuttings of basswood would grow.—G. M. DOOLITTLE.

Linden, and tulip if they do well, from seeds. Plant in the fall or spring. The trees grow rapidly, and are beautiful.—A. J. COOK.

1. Linden, if you want honey. 2. We need light upon raising linden from seed. You would probably better buy young trees. I do not believe that they will grow from cuttings in open ground.—C. C. MILLER.

I would plant the linden, and a few soft maples. I am not authority on how to get the plants started.—J. M. HAMBAUGH.

1. I would plant black walnut. 2. I do not know, never having tried it. Plant the seed in the fall. For a shade and honey-tree plant basswood (or linden).—A. B. MASON.

If I were to plant for the value of the timber, I should plant black walnut; for honey, basswood is the best for your State. I do not know whether they will grow from cuttings, but they will grow from seed. I do not know the best time or manner of planting.—C. H. DIBBERN.

1. Where fence-posts are used, black locust is very valuable. It grows very rapidly, and lasts equal to red cedar.

2. Basswood seed will grow. Plant as soon as gathered, and keep the ground moist with a light covering of leaves. Plant seeds in nursery rows, and transplant when large enough. Locust, basswood and soft maple would answer your purpose.—R. L. TAYLOR.

Honey-locust (*Gleditschia triacanthus*) yields an abundant flow of honey, and can be propagated from the seed. Also poplar (sometimes called tulip-tree) is a good honey-yielder. But for general use, the basswood cannot be beat. The best way would be to get small trees from the woods. Cuttings would be far preferable to seed.—WILL M. BARNUM.

1. Basswood, locust, soft maple, and perhaps tulip trees. 2. No! Take roots from places where the trees have been grubbed out and have sprouted up again. So far as our experience goes not one seed of basswood in twenty will grow. For wind-breaks, etc., all things considered, we would use first, maple; second, locust; and third, basswood,—DADANT & SON.

1. For your purpose I would recommend basswood, and next to that, the *Linodendron tulipifera*, commonly called in this country "poplar." 2. Basswood can be grown from cuttings, but I think that success could only be secured on a large scale by using a hot-house. 3. They will grow from the seed, and the seed should be planted in the late summer or early fall.—M. MAHIN.

1. Iowa is a large State—200 miles across north and south. What would do well in the southern part might not in the northern—instance catalpa. For an ornamental tree few excel linden, but in planting I would not confine myself to one variety. While you like honey, your posterity may like walnuts and butternuts. The lumber from the latter will be four times as valuable. Linden is best raised from the seed gathered in fall. They can be bought cheaply from some nurseries. This question needs more space.—EUGENE SECOR.

Plant the beautiful American linden. I would not bother with seeds or cuttings, but go to the forest and get the young trees. They transplant readily, but the young trees must be protected from stock. Nearly all four-footed animals like to browse on the mucilaginous twigs and bark, and I have even seen bipeds of the *genus homo* doing the same.—J. M. SHUCK.

Your locality must be taken into consideration when deciding your questions. In my locality I would plant the black locust, as it is an extra honey-producer, a rapid grower, and is valuable for fence-posts. A five-acre lot worth $40 per acre here, if planted in black locust, in my locality, would be worth $250 per acre in 15 years from the time it was planted. Perhaps the linden would prosper best in your locality. It will not pay to raise forest trees from cuttings.—G. W. DEMAREE.

If you want honey, transplant young linden trees (basswood) in the spring, from the woods. They grow readily if sufficient moisture is provided. To grow from the seed is less satisfactory. The poplar (or tulip), black and honey locusts, soft maples, etc., are hardy, easily grown, and are very desirable for shade, wind-breaks, and the honey they produce.—THE EDITOR.

CORRESPONDENCE.

THANKSGIVING.

Written for St. Nicholas Magazine
BY GRACE WINTHROP.

The sunflowers in the garden
  Are bending limp and low.
Two cornstalks, brown and withered,
  Stand rustling in a row.
"We were so fine," they murmured,
  "A little while ago!"

The sky is gray and gloom
  Without the sunshine's glow.
There is no smiling anywhere
  Unless—Oh, gladsome show!
Twelve plump and golden pumpkins
  All beaming in a row!

They say, "Why so despairing?
  We're always here, you know,
At this unpleasant season
  Expressly sent to show
The need of glad Thanksgiving,
  In spite of frost and snow."

ITALIAN BEES.

Putting on Sections—Symptoms of Foul Brood.

Written for the American Bee Journal
BY G. M. DOOLITTLE.

A subscriber to the AMERICAN BEE JOURNAL wishes me to give a description of the Italian bee. While this would seem almost unnecessary at this late day, yet I will try to comply with the request in a sort of a general way.

This bee belongs to one of the yellow varieties, to which also belong the Cyprian and Syrian. The Italians are very quiet and gentle, in their purity, while the other two varieties named are very cross and vindictive. Italians were imported to this country about 1860, while the other two were not brought to our shores until about 1880. So far nearly all apiarists agree in placing the Italian bee at the head of all others, both as to ease of manipulation, beauty, and honey-gathering qualities.

As comb-builders the Italians are not quite as good as the black or German bee, neither do they use as much wax in capping their surplus honey, which causes it to have a little darker, or watery, appearance. They cling very tenaciously to their combs, while the black bees often fall off or run about in a frightened way, making it a nuisance to handle them, especially if a little too much smoke is used. The tenacity of the Italians makes the handling of the hives and combs very pleasant, but when we wish to get them off the combs for extracting the honey, or for any purpose, it is quite a job.

However, the main point of superiority of the Italian bee is in its honey-gathering qualities. If there is any honey to be had, they are away to the fields after it, and will toil incessantly all day for a very little, while the black bees will not work at all unless honey can be gathered quite freely. Italian bees will labor faithfully all day long for only "pennies," while the German bee must have the "dollars" or it will not work. To illustrate:

In the spring of 1872 the writer had 15 colonies of black bees, and 3 Italian colonies. As an experiment, a 14-quart pail full of maple sap was placed in shallow dishes after adding about 2 pounds of sugar, so as to make a very thin sweet. With honey, the bees were started to work near this sap, and as long as the honey lasted they came in about the proportion named above—15 of the dark, and 3 of the yellow bees. As soon as the honey was gone, they took to the sap, but in a few minutes the black bees began to stop coming, so that in an hour none but Italian bees were carrying the thin sweet. These bees worked until they carried all the sap home, and had it evaporated down to the consistency of honey, while the black bees thought it not worthy of their notice.

When to Put on Sections.

From the various letters which I get, asking when sections should be put on the hives, it would seem that there was a lack of knowledge on the part of some along this line.

In the forepart of the season a little care is required, for if put on too early they will greatly retard brood-rearing, owing to the cool nights which are liable to occur at the time, during which the bees are obliged to economize heat as much as possible. At this season of the year it is not best to put them on until the hive is filled

with bees and brood, so that they can take possession of the sections at once, and if cold nights do come, the bees will crowd down into the hive below, so as to protect the brood.

Again, there is no use of putting on sections until the bees are getting honey, for they not only tend to discourage brood-rearing, but the bees, having nothing else to do, will often cut down the foundation starters, and plaster propolis or bee-glue over them so as to make the labor of the apiarist much more than it otherwise would be.

The proper time to put on sections is when the hive is filled with bees and brood, and the bees are getting honey enough so that little bits of comb are being built about the tops of the frames. At such times the cells of comb will be lengthened along the tops of the frames, which is so pleasing to the eyes of the experienced bee-keeper, thus showing that the bees are getting honey, and are ready for the surplus department.

Symptoms and Cure of Foul Brood.

Another subscriber wishes to know the symptoms and cure of foul brood. When a colony has this dreaded disease, a few of the larvæ die soon after the bees seal the cells containing them. The cappings to the cells soon have a sunken appearance, with a pin-hole in the centre of each. Upon opening the cells the larvæ is found stretched at full length in the cells, and have a brown appearance, while all healthy larvæ or pupæ are white. If touched, this dead brood is of a salvy, ropy nature, and gives off an offensive smell.

From the first few cells the disease spreads rapidly until the combs become a putrifying mass, generally during the first season, and nearly always during the second, which stench at this stage, if allowed to get so far, can be smelled a rod or two from the hive. A few of the larvæ mature into bees, the population of the hive decreases until it becomes an easy prey to robbers, when the honey is taken off by these robber bees, only to carry the seeds of the malady to the robbers' hive, for the disease to spread through the honey, and all else coming in contact with it.

The cure is to drive out all of the bees from the affected hive, and keep them shut up in an empty box until they are nearly starved, so that they will have digested all of the diseased honey. They should then be hived and fed in a new, clean hive, when they are clear from the disease. If in the honey season, a swarm issues from a foul-broody hive, it is not necessary to put them through the starving process; simply hive them in an entirely empty hive, the same as you would a healthy swarm, and as far as my experience goes, they will always be healthy thereafter, unless they contract it again by getting diseased honey from some other hive.

Great care should be taken that no bees get at the contents of the old hive before the combs are rendered into wax, and the honey and hive scalded. Other cures have been recommended, but most of them are ineffectual, except in the hands of an expert.

Borodino, N. Y.

ODOR OR COLOR.

Which is it that Attracts the Bees to the Flower?

Written for the American Bee Journal

BY MRS. MAHALA B. CHADDOCK.

Prof. Cook asks how I know that color is no guide to bees. I answer, I know it because I am a reasoning being. If I were an insect I should know it by instinct. I *know* that bees are guided by odor, and I think that I can prove it, even to Prof. Cook's scientific mind.

Most of the nectar-bearing plants that I am acquainted with are inconspicuous in color, but strong in odor. Is there anything bright or showy in a field of white clover? Anybody with eyes in his head must answer "No." Do not the bees always find the white clover blossoms? A thousand voices answer "Yes." Well, then, color does not attract bees to white clover, but odor does. It seems to me that this is incontrovertible.

The blossoms of the linden are yellow, but there is a sort of white membrane near the clusters of flowers that makes many people think that the blossoms are white. A silver-leafed maple appears, when the wind is stirring, as much like a flowering tree as the linden does when full of bloom. Can the bees see the blossoms on the linden and pick them out from other forest trees? No, they cannot! They smell them, and go for them. Can any body doubt this? Can Prof. Cook doubt it?

Then there are the raspberries, the catnip, the sweet clover, and groundivy, all inconspicuous flowers, but flowers that are never neglected by the bees when they contain nectar. And is there on all the earth a more insignificant flower than the smart-weed? It grows mostly in corn-fields, and never reaches to the tops of the stalks; the flowers are a pale pink in color, and so small that at any considerable distance up in the air they must be practically invisible. Are the smart-weeds ever neglected by the bees? Never. Why, if it were possible to stretch a curtain over the entire field, and nail it to the fence all around, the bees would go in through the rails and gather the nectar all the same. Can Prof. Cook doubt this?

I think that I have proved my statement, but I will prove it in another way. When you feed bees out-of-doors, put some honey in a plate of rye flower, for instance. Is it a yellow color, or *any* color, that attracts the bees to it? The rye flower is a whitish gray—one of the most inconspicuous colors—but Prof. Cook knows that the bees will go to it. How can they find it except by the odor?

When old bee-hunters go out to "line" bees, what do they take to attract the bees—some bright-colored yellow flowers fastened in a bouquet on a pole? Not at all; they take some foul smelling stuff in a vessel, and the bees come to it because they smell it. Can any one dispute this point? I think not.

If the slops from the bed-rooms are emptied on the grass at certain seasons of the year, the bees will work on that spot. There are no flowers of any kind, only green grass and *odor*. Can this be disputed? When bees go to cess-pools, do they go for bright colors? Everybody knows better—they go because they smell something that they want. There can be no question of color about it.

I think that I have covered every point, so far. Prof. Cook says: "It is almost the universal opinion of scientists, that the color of flowers was developed especially to attract insects: this of course for the flowers' good." If this is so, then it only goes to show that scientists are almost universally wrong. Bees visit flowers for the honey and pollen they contain, not for the good of the flowers. To believe otherwise, is witchcraft. A bee can know no more of what is good for flowers, than a hog knows of the prices of pork in a daily newspaper.

If color is given to flowers to attract insects, why do not bees work on flowers that have no nectar or pollen? Why do not bees work on zinnias and dahlias, and peonys? Nothing could be much brighter, but they contain no honey or pollen, and the bees pass them by. So if Nature gave color to flowers to insure their fertilization, she made a big mistake. She would better have endowed all her flowers with nectar or pollen. If insects do by chance alight on a brilliantly colored flower containing no honey or pollen, they do not stay; they do not go in and out, and handle the stamens, as it is necessary they should do, in order to fertilize the flowers.

The Professor asks how I know that insects do not reason. I know it in

this way: All reasoning animals study out ways to better their surroundings. This is the *insignia royal* of reason. Well, bees do just the same things over and over that they did thousands of years ago. They live in hollow trees, and hang suspended on limbs now, when in a wild state, just as they did then; and build in the crevices of rocks just as they did in Bible times. Why, if bees had been endowed with reason, there would be no free man on the earth to-day. Armed as they are with a deadly weapon—a weapon that will kill a horse or a man as surely as a bullett—they would be marching us around with a guard of bees on every side, and telling up *pointedly what* to do, and *how* to do it—to improve *their* houses, to train up *their* young, and to prepare *their* dainty dinners.

Vermont, Ills.

BEE LIFE.

The Length of the Term of Bee Life Considered.

Written for the Journal of Horticulture

BY A LANARKSHIRE BEE-KEEPER.

Notwithstanding all that has been written upon the natural term of bee life, there is still much misconception regarding the limit. From the fact that many articles have been written on preserving the life of bees, is proof that their management is by many but imperfectly understood, and that many bees die at an early age through ignorance on the part of the owner. There is no time throughout the whole year that the apiarist is justified in pursuing a course that is likely to shorten bee life. Where profit is expected it should be the aim at all times of the bee-master to prolong it.

Although care to prolong bee life is necessary at all times, yet during autumn a little extra attention is absolutely necessary before we can reasonably expect our favorites to tide over the winter months successfully, and obviate the untimely deaths we read so much about. That bee life can both be prolonged or cut short there is no doubt, and the bee-keeper has the control of that to a great extent, as can be witnessed by comparing results under different managements.

I have expressed my views strongly as to what constitutes the best preserving hive, the first principle in apiculture. I have also shown that the short term of bee life, as set down by modern writers, is misleading; in short, the six-weeks theory cannot be supported by any evidence. However desirable the youthful element may be in the hive at certain seasons, it is positively injurious at others. It is a fact well known that bees, on or about the fifth day of their existence, if the weather is warm, fly out and void their excreta, which, if delayed beyond a reasonable time, they become restless and cold, communicating the restlessness to the adult bees; and the young ones, unable to fly, either leave the hive to die outside, or are chilled to death inside. Young bees cannot endure the same length of confinement, if they have never had an airing, as adult bees, and are often the direct cause of the entire loss of the colony that bred them.

Late feeding is a mistake, and many a bad result has arisen therefrom. Late breeding we cannot always prevent, but it should not be encouraged. It has always been our object to be in possession of bees that neither require feeding nor coddling. Some years since, and for years in succession, a cotemporary advised feeding in October, and we know something of the evil that beset those who took that ill-timed advice.

Bees, as a rule, cease breeding with the decline of the honey season, which usually occurs about the end of August, except in the case of those having young fertile queens, which, unless fed, will not breed beyond the autumnal equinox, but will sometimes begin again soon after the shortest day. When this is the case, and a mild February follows, there will be a chance for the young and tender bees to get an airing. Then all may go well; but should the weather be unfavorable and protracted, so as to prevent the flight of the young bees, the colony may succumb to the influence of the evil. But, happily, early breeding is not so fatal or injurious to bees as late breeding.

I have for some time past been paying particular attention to colonies with late-bred bees, not for the purpose of getting information, but to be enabled to give that to others from accurate observations. Since Nov. 10, the last day bees carried pollen for this year, I have collected all the dead bees from several hives, having taken the precaution that none should be carried off by the birds, by netting the front of the hive. I collected the ejected dead, and found, as I fully expected, not more than 10 per cent. of adult bees out of more than ten thousand. These I laid down near a hive, and in less than an hour the sparrows and titmice had carried every one away. My reason for mentioning the alacrity the bees displayed is to impress bee-keepers that, though their hives may show signs of dead bees, they may be actually dwindling rapidly through some autumnal mismanagement.

The foregoing will, perhaps, impress the beginner with the evils of late feeding and breeding, and convey to him the cause of dwindling. This is sometimes aggravated by uncalled-for molestations, and a superabundance of cloth coverings, which often cause internal damp and disease in the bees. Thus, by excess, they aggravate evils that sensible bee-keepers would obviate by using, in moderation, the proper quantity of a suitable material, which helps greatly to prolong the life of bees.

PROTECTION.

Legislation for the Protection of the Rights of Bee-Keepers.

Written for the American Bee Journal

BY DR. C. C. MILLER.

I have been sometimes amused, sometimes unmoved, and sometimes pained at the inevitable misconstruction and misrepresentation that generally occur whenever my views as to legislation for bee-keepers are mentioned. Do I express myself so indistinctly on this subject that I cannot be understood? Quite frequently the misrepresentation is in attributing to me views that I never held. I clip the following from the *Western Plowman:*

For some years a discussion has been going on in the bee-papers as to bee-keepers buying the "honey rights" of their respective districts, to the exclusion of all others, by paying a small rent to the owners of the land on which the bees are supposed to forage. Dr. C. C. Miller, of Marengo, Ills., is at the head of such a proposition, and seriously proposes to have a law enacted to that effect. Lately some others have come to his assistance, and they seem to seriously think that some such law should be passed, and would be of practical advantage to both bee-keepers and land owners. How such a question can be seriously considered, and why it should be urged by bee-keepers is astonishing. Such a law ought to be entitled, "An act for the extermination of bee-keeping," as that would be the inevitable result if it could be enforced. Bee-keepers have certainty expenses, and difficulties enough now, without adding new burdens, especially if self-imposed. But let us look at the justice of the proposition.

Bees have been kept for thousands of years, and their rights to go and gather the nectar from forests and fields have never been questioned. Such rights have never been deeded in fee simple to any land owner, and consequently they do not own them, and have nothing to rent or sell. But even admitting that they had a right to the honey produced, and which would go to loss but for the bee-keeper, then in order to protect such property they would be compelled to build a legal fence which would of course be such a fence as no well-behaved bee could get over. That this cannot be done is very evident. Then such a proposition is contrary to public policy. The bee-keeping industry interest is now worth more than $25,000 annually. Many a poor man, and woman too, are now able to

make a good living in this pursuit, for themselves and families, without injuring any one, that would otherwise, perhaps, become charges on the community. Then, too, would not such a law be a step in the direction of trusts, favoring a few at the expense of the many? But it is almost nonsense to talk of this matter, only to show its absurdity. It will be many a day before any such law wilt be passed in this country.

The above is from the pen of Mr. C. H. Dibbern, for whom I have much respect as conducting a department in the *Western Plowman*, of Moline, characterized, so far as I have had opportunity to judge, by fairness and good sense. Mr. Dibbern and I have had no bitter quarrel, and so far as I know, nothing but kindly feelings exist between us, and why he should misrepresent my views, and hold me up to the ridicule of his readers, is something that I can understand no more than I can understand the many previous cases of misrepresentation.

Whether the proposition to buy "the 'home rights' of their respective districts by paying a small rent," etc., be a wise proposition or not, I will not stop to discuss, but certainly I have no recollection of advocating such a proposition, or proposing "to have a law enacted to that effect." Indeed I have said very little as to the particular means of attaining the end, the only point I have insisted upon being that there should be some way in which a bee-keeper might be secure from interference in a certain territory, without specifying how such a security should be obtained, or whether it should be secured for one colony or a thousand.

Mr. Dibbern says, "Lately some others have come to his assistance," and I am glad to believe that their number is not small, and I feel confident that when Mr. Dibbern gives the matter the thought it deserves, he will come to my way of thinking.

Mr. D. says: "Bees have been kept for thousands of years, and their rights to go, and gather the nectar from forests and fields have never been questioned." Softly! Has Mr. D. forgotten the cases of S. I. Freeborn, of Ithaca, Wis., Z. A. Clark, of Arkadelphia, Ark., and others? On account of the absence of laws for the protection of bee-keepers, more than one has been obliged to give up his bees or move.

Has Bro. Dibbern forgotten the existence of the Bee-Keepers' Union, born of the necessity for organized effort to withstand the assaults of ignorance and malice, just because proper legislation is lacking? What would be said of a "Farmers' Union" combined to resist the attempts that might be made to drive a farmer from the cultivation of his land? No such thing is needed, for the law is sufficient to protect each farmer on his territory, be that a rod or a mile. Something in the same line is needed that the bee-keeper may be protected, whether he may have one colony or a hundred.

As the matter now stands, Mr. Dibbern may awaken some fine morning to find that his apiary, "the white, blue, red and yellow hives among the trees," upon which he looks so lovingly, may no longer be continued, on account of legislation from a lower power that was made possible by the apathy of bee-keepers in failing to secure from the State the legislation that might be had for the asking. Or he may find, as others have done, that within a few rods of his, another apiary may be planted, thus spoiling the chances for both; and then Mr. D. might think it a very fine thing if he could stand on the same footing as a farmer, in possession of his territory.

The fact that "such a fence as no well-behaved bee could get over" cannot be built, cuts no figure in the case. Fences are not built to confine fish within certain limits, and yet fishing limits are defined within which no outsider dare intrude.

Does Mr. D. think that the laws protecting farmers ought to be entitled "An act to exterminate farming?" Does he think such laws "a step in the direction of trusts?" Would it be an improvement to throw all lands open in common that each man could settle down anywhere at his own sweet will?

Now please remember, friend Dibbern, I ask nothing more for the bee-keeper than for the farmer, and I have no more desire to drive out of the business "many a poor man and woman who are now able to make a good living in this pursuit," than I have to drive them out of farming.

Marengo, Ills.

ASIATIC BEES.

Where the Caucasian Bees Came From.

Written for the American Bee Journal

BY J. W. TEFFT.

It will be seen at the extreme eastern end of the Black Sea in Central Asia, there stretches eastward the range of Causasus mountains to the Caspian Sea. The great Russian railroad now building into the heart of Asia is at last a fact, and travelers can now go from St. Petersburg almost to the boundary line of the Chinese Empire in twelve days. From St. Petersburg the new line runs through Moscow, Womnesh, Rostoo and Valkavas; here the route is barred by the Caucasus range, over which the line is not yet completed, and one has to take a camel caravan to travel 18 hours over a pass of 8,000 feet high, 2,000 feet higher than St. Gothard.

With scenery twice as wild as that of Switzerland, the Caucasus will be a great summer resort in the near future. Over the pass we come to the rich valley of the Oxus, the Mississippi of Central Asia, now opened up, having no outlet save by caravan. The resources of this territory are all kinds of minerals and agricultural, and all undeveloped. The effect on civilization, of the new railroad line, can better be imagined than described. Considering the fact, the great mechanical advances, and the higher civilization of the nineteenth century will now be carried into this barbaric Asia. Its effect upon school geographies is not even to be surmized.

In referring to Webster, he defines Caucasian thus: "Any one belonging to the Indo-European race, and the white races originating near Mount Caucasus." These mountains stretch from longitude 40° to 50° east, and latitude 46° to 50° north, about the same latitude as the State of Maine, 47°, being several degrees north of Syria, Cyprus or Italy, the homes of the Syrian, Cyprian and Italian bees. Thus it will be seen that the Caucasian bees came from a cold climate.

Peculiarities of the Caucasian Bees.

Now whatever may be the individual or class merit of the Caucasian bees, they take the lead in all points save one, and that is swarming. They are remarkably gentle, seldom stinging, yet they can sting when abused.

In manipulation I never use smoke, as that arouses them to anger. The only time I use smoke is when closing up the hive, to drive them away to prevent bruising.

These bees cling to the combs firmly when the frames of combs are handled. As honey gatherers they are as good as the best. Their cappings are equal to that of the blacks, being very white and thick. The bee-glue or propolis is not half as sticky as that of the blacks or Italians. They gather immense quantities of pollen. The queens are remarkably prolific, and colonies swarm once a week, if left to their own management.

They build more queen-cells than any other race of bees. The brace-combs seem to be made of dark wax, a kind of mud color, which is objectionable when cappings are stuck to the separators. They are extra hardy, and stand our cold, bleak winters splendidly.

Their color is of a dark copper hue, or fine orange like—not so light a

color nor as handsome to my eye as the Cyprians, but tending towards that splendid species. They are large bees, yet long and slim. Their wings are long, and will carry a big load. They work when Cyprians and blacks are idle, and are out earlier in the morning, and fly later in the evening. They gathered honey right along during the drouth of 1886 and 1887, when the blacks, Cyprians and Italians gathered none, but used up all unsealed honey in the sections, and then nearly starved.

They not only stand the heat, dryness and cold better, but against robbers, insects, moth-millers and fungus they have no equal; and when properly understood and managed, they will gather as much honey as any bees, but they require another system of management.

They are amazingly interesting as a race; not for their superior hardiness against cold and drouth, but for the fact that they introduce a distinctly new strain of blood, one which by crossing with those we already have, is likely to give us very superior bees.

The four years that I have been experimenting with the Caucasian bees, I have learned something. The first swarm I was at my wit's end to understand rightly. At that time I would have willingly given $50 had I never seen them. They gave me much trouble by their continuous swarming, which was decidedly disagreeable and annoying. I transferred them to reversible frames, and with a determination to conquer, and also to study their habits and requirements, and by domestication to civilize them so that they would stay at home, I soon found the prime cause to be in the queen, resulting from her extraordinary prolificness. The minor cause was pollen.

The queens want more room than any race of bees that I ever owned. The peculiar device I have adopted in my management of them was that I gave the queens more room without inserting extra combs, and with the help of the device I solved the puzzle, and now I have them under control.

Securing Hardiness in Bees.

For 31 years I have been trying in vain to discover one type of bees that I could rear successfully in northern central New York; and one of the most discouraging things to contend with, has been the difficult character of hardiness. Indeed, I think if it were not for this unsurmountable difficulty, we have bees hardy enough to successfully breed much further north. Without hardy bees there cannot be a great success in honey-production; and to my thinking, it is this weakness which has prevented my succeeding with the almost hardy bees, such as the Cyprian, Italian and blacks, and their crosses. They are all fine honey-gatherers, but they fail during our severe winters.

It seems reasonable, and it may be of some wisdom, that with the Cyperian bee from the South, and the Caucasian bee from the North (or any other first-class race of bees)—if we could cross them with this most hardy bee, and could rear them successfully, we would have the "American bee;" and by crossing and judicious selection, we could retain the quiet, gentle disposition and hardiness of the Caucasian, and thus remedy the terror—stings.

A cross of the Cyprians, and this the hardiest and gentlest of all bees, might confer upon the former those better qualities, gentleness and hardiness, which are generally needed; and by commingling the several different natures, we will have an equisite beauty—the American honey-bee, not now found in any one type.

But our triumph will not then be completed. We must, and can, produce an American bee vastly superior to any now known. There is no question of the certainty of such results. We want first-class bees, and in order to get them, we must have *first-class parentage.*

From the fact that all bees are more or less mongrels of many degrees of crossing, and various relatives will crop out in a multitude of disappointments, yet our past success is a guaranty for the future, that out of many, some will be good.

I trust that some enthusiastic apiarist may be sufficiently interested in the matter to make these crosses. This can only be done by those who are so situated as to be able to breed all kinds, which we of the bleak, cold North are unable to do.

Collamer, N. Y.

COLORADO.

Report of the Colorado State Bee-Keepers' Society.

Written for the Colarado Farmer

BY J. M. CLARK.

An adjourned meeting of the Colorado State Bee-Keepers' Association met in Denver, at the Chamber of Commerce, at 10:30 a.m., on Nov. 13, 1888, with President Milleson in the chair.

Secretary Clark read the minutes of the last meeting, which were approved.

Chairman Rhodes, of the committee on foul brood, desired to confer with the other members of the committee, and report in the afternoon.

Secretary Clark reported that he had received communications from Delta and Montrose, from parties desiring to form an association auxiliary to the State society. He also read a letter from C. E. Carroll, of Liberty, Rio Grande county, stating that he had had several colonies in the San Luis valley, but the experiment had not been a success.

President Milleson urged that the Society be incorporated, so that they could get their reports printed in connection with the Horticultural Society report, etc. V. De Vinney agreed with the President, and moved that the Secretary be authorized to take immediate steps towards incorporation under the State laws, which was carried.

Foul Brood and its Cure.

V. De Vinney thought that for quite awhile his bees had no foul brood. He was appointed executor for an estate, and brought the bees (which had originally come from the East) to his apiary three years ago. He did not understand foul brood then. He found white spots and a slight odor, but not such as books had led him to believe. His own bees had robbed them as they grew feeble. Sixty colonies got this foul brood. Bee-Keepers should not wait until the combs get bad, but as soon as they find white spots and a slight odor, they should look out. He cut out the bad places and washed the frames with salicylic acid as the bee-books direct. He saved some, as it looked good, but gained nothing, as much afterward proved bad, and other foul brood was placed where he had cut it out. He had been over five years in getting this foul brood, so he did not think that it was as bad in Colorado as elsewhere.

Mr. De Vinney's belief is that this is nothing but a mold or mildew, no worse than other mildew, and if cut out early no harm would result. Where he used salicylic acid last spring he had found an improvement. It is generally said that when the comb is flattened, it is an evidence of foul brood. This is not true, for it may be even. The depression is caused by bees pressing against it in warm weather. He saw such depressed combs, took them out and examined them under a magnifying glass, when he saw them move, showing that there was life.

Bees will store honey when there is foul brood. To tell if clear comb is affected with foul brood, tip it to an angle of 90°, when you see the "mummy." Do not look at them flat, as they will appear all right, since the bees will clean them out when they can, but the "mummy" part is too sticky.

Mr. Davis—To what extent has foul brood been scattered ?

Mr. Knight—My bees had it in Littleton.

Mr. Devinney—The bees had it in Morrison, but none up near Central City. It is in North Denver and Ralston creek.

Thos. Crisman lives on the upper end of the Ralston, and had heard of none west of Arvada.

J. W. Bacon said that there was none in the neighborhood of Longmont.

Mr. Hurlburt feared that many bees had the foul brood, as it was in the unsealed as well as the sealed honey, although the bee-books taught differently.

Mr. De Vinney corroborated Mr. Hurlburt's statement, as did also Rev. R. H. Rhodes.

Prof. Cheshire's book on foul brood was highly endorsed.

Mr. De Vinney said that science never discovered a gold mine, but it could tabulate experience. He had read much, but stated facts regardless of reading. As a big fire will destroy the whole earth while a little will not, so a little mildew amounts to little, but much will ruin.

Mr. Lohf had foul brood introduced into his apiary through some old comb. As soon as he found the punctures, he read bee-books, and put all the bees into an empty hive, and smoked the hive with sulphur. He used sulphur to a great extent when in the nursery business in Missouri. It destroys all fungus. It kills fungus also in the human system. He gave the bees new combs, and that was the last he saw of it.

Mrs. Graves, of Clear creek, found a great deal of foul brood. Mrs. Rhodes advised her to get medicine which she gave in syrup, and some queens were now laying, and they are thrifty.

Mr. Rhodes said that he had followed strictly the teachings of Prof. Cheshire's book, and the bees are now so lively that they act like bees in the spring.

Mrs. Graves said that she poured this medicated syrup over the broken combs. She used only a very little of the best of the poor comb in feeding.

Mrs. Rhodes' bees had had the foul brood all summer. Now she has some strong colonies, but has taken out 150 frames with foul brood. Mr. Rhodes dug a big hole in which she buried the frames and honey. She intends to experiment in feeding the best of the frames of honey to the bees.

Mrs. Everett had not found foul brood among her bees, which are lively, and come out each fine day. They have averaged 95 pounds per colony, and 5 swarms.

Mrs. Bacon said that her bees had averaged 150 pounds to the hive in extracting, but only 50 pounds of comb honey. This is not fair, as the bees were weak.

After a little discussion several new members joined, and the convention adjourned until 1:30 p.m., when Mr. Rhodes, of the committee on foul brood, consisting of H. Knight, Wm. Davis and J. M. Clark, with himself, made a report, showing that the disease was spreading very rapidly, that it was clearly defined, and they besought all Colorado bee-keepers to aid them in suppressing it; urged the appointment of a committee to petition the Legislature to pass a protective law, and to see that it is enforced. They recommended Cheshire's work on foul brood, and requested the members to forward to the Secretary all information pertaining to the subject.

The report was considered in parts, and with a few slight verbal changes, the entire report was adopted.

"At what season is the best honey gathered ?"

H. Knight—The first about June.

Secretary Clark agreed that this was so, whether gathered from alfalfa or other flowers. Early honey has a white comb, as well as a better flavor.

Mr. Carlzen found that early honey is less gummy.

Secretary Clark said early honey would keep the best.

Mrs. Rhodes said that some tastes preferred the late honey.

Mr. Rhodes said that a Pennsylvanian, accustomed to buckwheat honey, would think our worst honey better than his best.

Secretary Clark thought that late flowers were yellow, and those of spring, white.

Mr. Knight wanted to know why late honey always granulates. Mr. Rhodes said that it was a question of locality; his did in the spring.

Secretary Clark said that alfalfa honey would candy, also rosin-weed honey, when extracted.

Mr. De Vinney said that raspberries would be in bloom about June 5, before alfalfa. His bees worked on willow, and he wanted to know about the quality of the honey. Answer—Mr. Root gives it as a honey-plant.

Mr. Rhodes offered the following resolution which was carried unanimously by the convention :

Resolved, That a committee of three be appointed whose duty it shall be to search out fraudulent honey, and dealers in the same, and work in the Legislature to secure laws to check such dishonest attempts to injure the honey industry of Colorado.

"Will the queen deposit eggs in cells that have contained foul brood ?" Mr. De Vinney said that they would when crowded.

Keeping Honey from Candying.

"What method is best to keep comb honey in winter from candying ?"

Secretary Clark favored a temperature like that in which it was stored. If we can keep it in the same conditions as regards light and heat, as in the hive, we can keep it longer; but honey stored in some conditions, nothing can keep it from candying. Rosin-weed honey would sometimes candy in 48 hours.

"Is foul brood an epidemic, or is it a contagion ?"

Mr. Rhodes thought that we must treat it as a clearly defined disease. The remedies recommended have acted as checks, and he thinks next year will demonstrate. This year he began too late, when brood-rearing had ceased. In Colorado it can be checked easier than elsewhere. Stringent legislation is necessary; at the last meeting one member objected to a penalty. In Michigan the law is $100; he had made it $50. When a man refuses to destroy his bees he should be punished. He took Mr. Davis to see a man who had lost all of his colonies but nine, and they were diseased. The committee had asked him to destroy the bees, offering to give him a new start. He would not destroy them, and they are living now. He believed that they had given the disease to Mr. Graves' bees.

Mr. Carlzen said that we ought to have a foul brood law like that in Minnesota concerning mustard seed—if they would not clean it, the county would and charge them for it.

Best Race of Bees.

"Which race of bees are the best honey-gatherers ?"

Mr. Davis thought that cross-bred bees stored as good honey as any.

Secretary Clark and Mrs. Rhodes thought that the Italians were the best.

Mr. De Vinney saw no difference in regard to honey-gathering. Blacks had done as well as his nearly pure Italians.

President Milleson said that certain races, whether pure-blooded or hybrid, did better than others. The rule is to adopt the best races, and breed from them to secure a particular strain. This is as important in bee-culture as in cattle-breeding. His experience is that if bees will not sting and fight in defense of their honey, they have very little to spare.

Mr. Bacon thought that this theory would prove the blacks better than the Italians, but he did not believe this.

President Milleson said that hybrids were considered the best by many bee-keepers.

"Which section is the best, the one-piece or the four-piece ?"

Secretary Clark preferred the four-piece section, although it took more time to form them than the one-piece. If well put together, the one-piece will do well.

Mr. De Vinney said that the one-piece sections had to be soaked, and if too wet, there was trouble ; sometimes they would split in two.

Secretary Clark said that it was hard to crate honey if the one-piece section did not make a perfect square.

Mr. Hurlburt said that too much water was bad ; he moistened the inside with a sponge, but did not touch the groove. He would take ten or more and wet them crosswise.

Secretary Clark laid them down, and wet them on the backs, rather than the grooved side ; as that swells and the other side does not, there is no danger of breaking.

Prevention of Robbing.

"What is the best way to prevent bees from robbing ?"

Mr. Bacon noticed a small swarm, two weeks ago, that had done nothing, and for days they waited on the outside. He thought that they were waiting for others to rob them, and then join them.

President Milleson thought that he would investigate ; there must be some reason ; it may have been foul brood.

Secretary Clark said that the best way was to narrow the entrance so that only one bee could enter at a time ; another method was to make each colony strong.

Mr. Davis was bothered two years ago. If he covered the hive, it stopped the robbing, but the bees could not find their way back. He found an effective way. He opened the hive and let them come in, then killed them with sulphur ; in a short time he opened it again, and when filled he gave them another smoking. He killed about 3 colonies, mostly his neighbor's.

Mrs. Rhodes found that if syrup was placed in crocks on the ground, away from the hives, it prevented robbing.

Mr. Knight always narrowed his hive-entrances, and had no trouble.

President Milleson said that bees were like men, if you allowed a man to get some money that he did not earn, he will always seek some way to get other money that he has not earned ; and bees will get honey without work if they can.

The Colorado Honey-Yield.

"What is the aggregate yield of honey in Colorado for 1888 ?" was not answered, as the Secretary said that he was getting honey all the time. The members were directed to report to him by the January meeting. Dr. Shaw urged them to be careful, as their figures were valuable, and none such had ever been collected. The Secretary said that if all would help him, he could get up a column of figures that would astonish our legislators. He would send circulars to every apiarist, but his experience in the Hortieultural Society convinced him that not one in ten would report.

Mr. Rhodes had found new bee-men in Boulder county, who had started with 20 colonies ; they now had 22, and 1,000 pounds of honey. Wherever he went he tried to get statistics. Dr. Shaw favored personal visitation.

It appears that there is a difference in the tendency of different samples of honey to candy. What is the cause of such a tendency ?"

Secretary Clark said that the difference was in the flowers and seasons.

Mr. Pratt said that he had resolved to build a bee-house the next day. Mr. De Vinney said that bees often struck each other in a bee-house, if they were too crowded. Mr. Knight had found that height made no difference ; a house 9 feet from the ground did as well as those lower.

Mr. De Vinney said that the Legislative committee should get to work now ; they should go to our member of the House and urge the cause ; then go to the Speaker of the House, and get him to put this man on the committee.

Stephen R. Pratt, R. H. Rhodes and Henry Knight were appointed committee on Legislation. Messrs. Clark, De Vinney and Hurlburt were appointed a committee on fraudulent honey.

Mr. Pratt said that he would like to have members address him thus : "Box 2804, Denver, Colo.," and state what legislation they desired.

On motion the executive committee was ordered to draw up a programme for the annual meeting on the third Monday in January, 1889. The convention then adjourned until that date.

J. M. CLARK, *Sec.*

SWARMING.

Experiments for Controlling the Swarming Fever.

Written for the American Bee Journal

BY DR. A. E. SMITH.

I carried on some experiments last summer to prevent swarming, and as far as the colonies were concerned, they did not swarm, but produced 140 pounds of comb honey each.

The plan is as follows : I watched the colony closely. Just when I thought they would commence building queen-cells, I opened the hive, took out two frames of brood, shook off most of the bees, looking sharply that I did not have the queen, and put in their places two frames full of foundation. I then replaced the section-cases.

In one week they began to show symptoms of swarming (as I thought), and I removed one frame, and put in its place a frame full of foundation (I use the 10-frame Simplicity hive). In the last removal, I changed the outside for the center frames, putting the four center ones to the outside.

At the first removal I also took out the fourth ones from the outside. In the last removal, I took an outside frame, but the one with the foundation went in the same place that one of the first did.

As I could not experiment on a large scale, and some apiarists may know something of this method, I would ask them, "About what proportion of colonies will it prevent from swarming ?" This seems to be enlarging the brood-nest, but it makes no difference what it is, *that* is the way to get the honey.

This was done while I was putting on or taking off section-cases, so it will be seen how much labor it took with those colonies, and the removal.

I should say that at the second removal, and the change of inside for outside frames, I like to uncap as much honey as I think the bees will take care of, and *up* it goes.

This, to me, looked the most feasible in my "well-digested plan," for the production of comb honey, and it was a perfect success. I use a modification of the **T**-super, and "tier up," filling the sections full of foundation, and never forgetting to praise the Italians.

If in another year I could succeed in a large majority of cases, in preventing swarming, that would be well, but I was afraid of an accident, etc. Any information will be thankfully received, and for this purpose I wish to submit it to the correspondents of the AMERICAN BEE JOURNAL.

Darlington, Wis.

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ The annual meeting of the Ontario Bee-Keepers' Association will be held at Owen Sound, Ont., on Jan. 8 and 9, 1889. W. COUSE, *Sec.*

☞ There will be a meeting of the Susquehanna County Bee-Keepers' Association at the Court House in Montrose, Pa., on Saturday, May 4, 1889, at 10 a.m. H. M. SEELEY, *Sec.*

☞ The twentieth annual convention of the New York State Bee-Keepers' Association will be held in the City Hall, Syracuse, N. Y., on Dec. 11, 12 and 13, 1888. G. H. KNICKERBOCKER, *Sec.*

CONVENTION DIRECTORY.

1888 *Time and Place of Meeting.*

Dec. 11-13.—New York State, at Syracuse, N. Y.
G. H. Knickerbocker, Sec., Pine Plains, N. Y.

Dec. 12, 13.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

1889.

Jan. 8, 9.—Ontario, at Owen Sound, Ont.
W. Couse, Sec., Streetsville, Ont.

Jan. 9-11.—Nebraska State, at Lincoln, Nebr.
J. N. Heater, Sec., Columbus, Nebr.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Fair Report for 1888.—Mr. Wm. Crouley, Redwood Falls, Nebr., writes:

My report for 1888 is fair. I have obtained something over 3,000 pounds of honey from 48 colonies, spring count, and increased them to 84 colonies and several nuclei. I will send a detailed report of the season when I have more time.

Bees in Good Condition.—Theo. Johnson, Fairbury, Nebr., on Nov. 17, says:

Bees in southern Nebraska only produced about one-fourth as much surplus as usual, but they are all in excellent condition for winter. The honey is of a fine quality, and nearly all in the market.

Feeding Bees for Winter.—Mr. Lemuel Stout, Philadelphia, Pa., Nov. 17, 1888, writes:

I have never lost a colony of bees in wintering. I use the "Hill device" on the summer stands. I have carried the hives one at a time into the kitchen, as late as the middle of November, the colonies having sugar stores of 12 pounds of sugar to 6 pints of boiling water, with no acid, and no further cooking after the water is added. Furthermore, about once a week, on a sunshiny day, I take the covers off of the hives, raise the cotton, open the muslin door, and take a peep in. Some of them cluster on the muslin, and some down among the frames. I do not recollect ever seeing published how fast they will take food. I placed 18 pounds of syrup in a long tin vessel, on one of my hives, at 3 o'clock in the afternoon, and at 6 o'clock the next morning they were running over the bottom of the vessel, averaging 1 1-5 pounds per hour.

Smoking Bees, etc.—T. F. Kinsel, Shiloh, O., on Nov. 19, 1888, writes:

In reading the article on "Bee-Keeping," on page 748, I was particularly attracted by the part of it relative to "smoke." The remarks, if heeded, may be worth the price of the AMERICAN BEE JOURNAL for a year. I have often heard men remark, "Bees won't sting me." It is not true. Bees, at times, without smoke or something to subdue them, will sting the oldest bee-master in the world, if jarred or irritated. When men "never get stung," they, perhaps, only go among bees to handle swarms, or when honey is coming in freely, when there *is* really but little danger unless an accident occurs. Let such men hive swarms when they have become mixed up in the air, or have been fighting—such bees sometimes become savage, and are dangerous to handle even *with* a good smoker. I never use a veil or gloves, yet a good smoker I consider indispensable, especially when doing the last extracting, or preparing the bees for the cellar.

The season here has not been a good one for surplus honey, though the brood-chambers are well filled with bees, and honey enough for winter use.

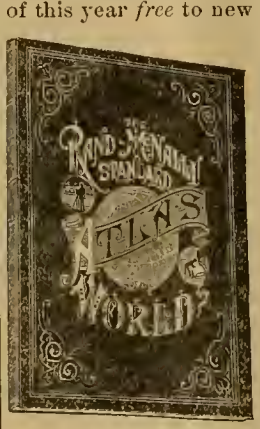
Shaking Bee-Disease—Mignonette.—Frank Waring, Philipsburg, Pa., on Nov. 19, 1888, writes:

Last spring I had 2 colonies of bees which I thought had symptoms of the "shaking disease." Their queens had been reared from one which I had bought. I had read, in the BEE JOURNAL, of people curing the shaking disease by pouring salt brine over the frames. I thought that I would try feeding salt brine in the open air; so I procured a small trough, put salt and water into it, and placed it near the hives, but not a bee was seen on it until after one night, when it rained hard, overflowing the trough; the next morning the bees were busy, and continued working on it for weeks. I filled it up with water, and added salt to suit their taste. All signs of the shaking disease disappeared before fall.

This fall my sister had one small plot of dwarf mignonette, one of mammoth mignonette, and one of Alsike clover, in bloom at the same time, the first crop of Alsike having been cut off when in bloom. When the small mignonette had 20 or 30 bees on it, the mammoth would have about half as many, and the Alsike clover would have 2 or 3 bees on it. If we had plenty of that small mignonette it would keep bees from robbing late in the fall, when the frost has killed more tender plants.

A Magnificent Present

For every one who will send us a Club of five *new* subscribers for 1889, before next January. All the remaining issues of this year *free* to new subscribers.



This ATLAS contains large scale Maps of every country and civil division upon the face of the Globe.

It is beautifully illustrated with colored diagrams, that show wealth, debt, civil condition of people, chief productions, manufactures and commerce, religious sects, etc.; and a superb line of engravings of much historical interest & value, together with many new and desirable features which are expressly gotten up for this work—among which will be found a concise History of each State.

Price, in best English cloth binding (size, closed, 11x14 inches; opened, 22x14 inches), **$4.50.**

To any one sending us, direct to this office, **FIVE NEW Subscribers** for one year, with $5.00, (renewals not to count) we will *present* this beautiful Atlas, by mail, postpaid.

We have purchased one of them for our own use, and regard it as a valuable acquisition to our library. It is handsomely bound and contains a fund of very useful knowledge. It contains **192** pages.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St., - CHICAGO, ILLS.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lbs., 18@19c.; 2-lbs., 16@17c. Good dark 1-lbs., 15@16c.; 2-lbs., 13@14c. Buckwheat 1-lbs., 14@15c.; 2-lbs., 12@12½c.—Extracted, 7@9c., depending upon quality and style of package. Receipts increasing, but demand still limited. Stock is not selling as freely this season as a year ago.

BEESWAX.—22c.

Nov. 13. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—It is selling fairly well at 18c. for best 1-lbs.; very fancy lots have sold at 20c. Dark and yellow comb sells slowly at 13@16c. Extracted, 7@9c., according to quality and style of package. The stock of best comb honey is light.

BEESWAX,—22c. K. A. BURNETT,

Nov. 22. 161 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 18@20c.; 2-lbs., 16@18c. Good dark 1-lbs., 16@18c.; 2-lbs., 15 to 16c.; fair 1-lbs., 12½@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9@9½c.; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.

BEESWAX.—22@23c.

Oct. 25. A. V. BISHOP, 142 W. Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c. 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.

BEESWAX.—23½c.

Sep. 17. THURBER, WHYLAND & CO

NEW YORK.

HONEY.—We quote. Fancy white 1-lbs., 17@18c.; 2-lbs, 13@14c. Fair white 1-lbs., 15@16c.; 2-lbs., 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10@11c. White extracted, 7½@8½c.; buckwheat, 5½@6½b.; California extracted, white sage, 7½@7¾c., amber, 7¼@7½. Demand good and prices firm. New comb honey is arriving quite freely.

BEESWAX.—23@23½c.

HILDRETH BROS. & SEGELKEN,

Oct. 10. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@12½c.; 2-lbs., 12@14c.; amber, 8@10c. Extracted, white, 6½@6¾c.; light amber, 6c.; amber and candied, 5½@5½c. For comb honey the demand is light; for extracted it is good, and market firm.

BEESWAX.—Dull at 18@22c.

Nov. 15. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white 1-lbs., 17@18c. Supply is better. Extracted, 8@9c. Sales slow.

BEESWAX.—22@23c.

Nov. 17. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb. Best white comb honey, 16c. Demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Nov. 12. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.

BEESWAX.—None in market.

Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c.; light amber, in same cans, 7¾c.; amber, 7¾c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.

Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The receipts are very light, and honey sells fairly well.

Nov. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs., 17c.; fair, 14c.; California white 1-lbs., 17c.; 2-lbs., 15c. Extracted white California, 7½c.; amber, 7c.

BEESWAX.—None in the market.

Nov. 22. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted in barrels, 5@6c., according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.

BEESWAX.—21c. for prime.

Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6½ cents; light amber, 6@6½c.; amber, 5½c. Comb, white 1-lbs, 13@14c.; 2-lbs., 13c. Light amber 1-lbs., 12@13c.; 2-lbs., 11@12c. Demand very active for extracted, and fair for comb honey.

BEESWAX.—20@21c.

Nov. 6. SCHACHT & LEMCKE, 122-124 Davis St.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Dec. 5, 1888. No. 49.

EDITORIAL BUZZINGS.

Patience, O mortal, Patience yet awhile!
How long soe'er thy evils here, the gates
Of glory do but wait to open wide
For him who waits!

Typhoid Fever, says the *Canadian Bee Journal*, has laid low two of the children of Mr. G. A. Deadman, of Brussels, Ont. He and the entire household were stricken with the fever, but they have recovered. Our sympathy is with our brother in his affliction.

The Langstroth Fund has had quite a boost, by a contribution from our English brethren amounting to about $112. This was forwarded by Mr. Thos. Wm. Cowan to Dr. C. C. Miller, and by the latter sent to Mr. Langstroth. The following letter of acknowledgement is published in the *British Bee Journal* for Nov. 15, 1888, which has just come to hand:

MY DEAR MR COWAN:—Yours of the 5th inst., with 23*l* 5*s*. 6*d*. for the Langstroth Fund, is received. It is not necessary that I should offer any words of thanks to you and your countrymen for your aid in this worthy work, for the reward comes with the doing; yet I would do violence to my own feelings did I not express to you my deep feeling of gratitude that God has prompted you to this act. I am sure I know the bee-keepers of America well enough to say that I am speaking for them when I say, "Thank you, thank you." Surely such things bring us nearer together. The ocean is not quite so wide as it was. The bond of friendly feeling between the two countries grows stronger each day; and if I were ever to stray so far from these "western wilds" as to find myself on "Albion's green isle," I am quite certain I could sing "God Save the Queen!" as heartily as any of you.

Most cordially yours,
C. C. MILLER.

Marengo, Ills., Oct. 24, 1888.

Our British Friends are having a fierce fight in the *British Bee Journal* over Carniolan queens and bees. The combatants are Mr. Simmins, Mr. Benton, Mr. Blow and "Amateur Expert." The editor and sub-editor of the *British Bee Journal* also take a hand in the controversy—Mr. Blow's last article being written from Wisconsin. After one of these articles by "Amateur Expert," in the issue for Nov. 15, he remarks as follows concerning the annual convention at Columbus, O., and our article on European adulterated honey, in the AMERICAN BEE JOURNAL for Oct. 24, 1888, on page 691:

Now let us cross "the pond." While we are stinging each other in this fashion, our friends over yonder have been holding a big convention at Columbus, Ohio. Mr. E. Secor, the bee-men's *Laureate*, has composed two "bee-poems," and Dr. Miller has set them to music; consequently, they sing these hymns in the meetings as Cromwell's "Ironsides" sang when on the march. We shall have to get a piano at Jermyn Street for the "Annual," so that we too may have a harmony. Would it not be a strong inducement for more to attend? You will find the music and words in *Gleanings* and the AMERICAN BEE JOURNAL.

Talking about the AMERICAN BEE JOURNAL, reminds me friend Newman has been giving us a poke in the ribs over *adulteration*. He finds "C. Lyle patented a mixture in England (patent No. 8863) of grape sugar, fruit sugar, and glucose (dextrose, levulose, and glucose), with the addition of fruit essence, and thinks this compound is equal to any natural honey." Mr. Newman wishes to know what we know about it, or if it is only a "joke," as "adulterated bee-farms" in America, that we are so fond of talking about, are only a joke. Perhaps Mr. Hooker will look up the patent when he next goes to the Patent Office. As to the stuff, I do not know if any is made from Lyle's prescription, but I do know that all our grocers sell what they call "honey syrup," at five-pence per pound. It is light-colored, like clover honey, does not granulate, is evidently flavored with some essence, and is presentable both to the eye and the palate. I cannot find that any one buys it for "honey" but perfectly understands it is a manufactured article, consequently no harm is done; and that is altogether a different matter from the bogus honey put up by purveyors and sold as the product of the bee at more than double price.

Honey Jumbles.—When at the Columbus convention we purchased a package of the honey jumbles which were being sold in the building devoted to the bee and honey exhibit, by a young man in charge of A. I. Root's exhibit. They were nice. This is a description of them from *Gleanings*:

One of our men sold in a few days seven barrels of these honey cakes, and could have sold a good many more had he been able to get them from the factory before the Exposition closed. At one time he sold two barrels in about twelve hours. Now, the particular point about this lot of jumbles that made them sell, is, that they were a year old, and yet they were just as nice to eat as the day they were baked, and not one of the great crowd took a single exception to them. This is the great point in using honey for making jumbles. You can keep them just as long as you choose, and they do not get dry and hard, like cakes made of sugar or molasses. Possibly under some circumstances they may dry up; but by placing the barrel in the cellar, or anywhere else where it is a little damp, they will very soon become soft and delicious, and yet there is no danger of mold or anything of the sort.

A B C of Bee-Culture.—The 37th thousand of this excellent book by A. I. Root, of Medina, O., is now published, and a copy of it is on our desk.

The book has been thoroughly revised, and brought down to the present day. Our ever-changing pursuit demands these revisions every year or two, in order to keep abreast of the times. The book now contains 400 large double-column pages of closely printed matter, and over 300 engravings; many of which are executed in the best style of the art. Generally speaking, the printing is also done very creditably, though some of the engravings are not up to the mark in the matter of press work. About 50 new engravings have been made for this edition, and about 50 pages of entirely new matter have been added to the body of the work in addition to the other new matter under various headings, to take the place of the discarded matter.

At the end of the book we discover 16 pages devoted to biographical sketches of some of our prominent apiarists, accompanied with illustrations. These are mostly from the fertile pen of Dr. C. C. Miller, of Marengo, Ills., who has given in a condensed form biographies which are very interesting.

The author of the book gives the following concerning it in *Gleanings in Bee-Culture* for November:

In 1880 we employed G. M. Doolittle to carefully read the A B C and point out such faults and add such suggestions as his large experience might dictate. His comments have been found to be so valuable that we thought best to employ a no less practical and extensive bee-keeper, Dr. C. C. Miller, to perform the same task on the present edition. He did so, adding his comments, or suggestions, to the latter portion of the work. The experience of two such *every-day* bee-keepers, confirmators, in the majority of cases, on various topics brought up in the A B C book, will be found to be exceedingly valuable to the reader....

Nothing but that which is known to be *thoroughly practical* has been admitted to its pages. In other words, every subject has been treated from a dollar and cent point of view. Strict attention to this particular, more than to anything else, has given the A B C enormous sales. Although we have added greatly to the value of the book, as well as to its cost, the price will be the same as heretofore—$1.25 in cloth; $1.00 in paper, postpaid.

This book and Prof. Cook's are well worth the prices at which they are published, and we cannot do better than to advise every apiarist to get *both* and study them well. Prof. Cook's is more full and valuable on the anatomy and physiology of bees, while Mr. Root gives interesting details about all the implements used in the apiary, and how to make them. Much of the new matter in the latter is in reference to hive-making, comb honey, comb foundation, swarming and rearing queens.

We are well pleased with these new books for 1888, and specially recommend them both to the craft in general.

GLEANS OF NEWS.

Paris Exposition.—It will be seen from the following circular letter of the Representative of the United States Department of Agriculture that the work of preparing the collection for the exhibit of this Department alone is no small undertaking. An idea of the collection in the aggregate can be imagined when we remember that agriculture is only one of the nine groups, into which the exhibit of the United States is divided :

By joint resolution approved May 10, 1888, Congress formally accepted the invitation of the French Republic to take part in the Paris Universal Exposition of 1889, and made an appropriation to defray the expenses incident to the collection and installation of the American exhibit. It was provided that a commissioner general, and an assistant commissioner general should be appointed to frame rules and regulations for the undertaking, and, under the direction of the Secretary of State, to control the expenditures to which it might give rise; and that as assistants to the Commissioner General, nine scientific experts, to be assigned to the nine groups into which the French authorities have divided the Exposition, should be appointed by the President. It was furthermore made the duty of the Commissioner of Agriculture to collect and prepare suitable specimens of the agricultural productions of the several States and territories.

In accordance with the provisions of this resolution of Congress, arrangements have been duly made between Gen. William B. Franklin, Commissioner General, and Norman J. Colman, Commissioner of Agriculture, for preparing that part of the exhibit for which the latter is responsible.

The undersigned, having been appointed by the President as one of the assistants to the Commissioner General, and assigned to Group VIII (agricultural products), has also been designated by the Commissioner of Agriculture as his representative to prepare the agricultural exhibit, and a board has been formed in the Department of Agriculture, consisting of the undersigned, Mr. William Saunders, Mr. O. D. La Dow, Mr. M. Trimble, and Dr. D. E. Salmon, to consider and decide upon all questions relating to the agriculture exhibit.

A sub-division of the work into various branches has been made, to facilitate the collecting and preparing of material for the exhibit, and special agents have been assigned as follows :

1. Grains—Mr. George William Hill, of St. Paul, Minn.

2. Citrous and other Fruits—Mr. H. E. Van Deman, of the Department of Agriculture, Washington.

3. Cotton and Fibres—Col. Jas. R. Binford, of Duck Hill, Miss., and Mr. Charles Richards Dodge, of Boston, Mass.

4. Viticulture—Mr. B. F. Clayton, of New York, and Mr. George Husmann, of Napa City, Calif.

5. Tobacco and Peanuts—Mr. Alexander McDonald, of Lynchburg, Va.

6. Agricultural Education and Experiment Stations—Prof. W. O. Atwater, of this Department.

7. Vegetables, including Hops and Cranberries—Mr. M. G. Kern, of St. Louis, Mo.

8. Entomology, including Apiculture and Silk-Culture—The undersigned, Mr. N. W. McLain, of Hinsdale, Ills., and Mr. Philip Walker, of this Department.

9. Forestry—Prof. B. E. Fernow, of this Department, and Mr. M. G. Kern, of St. Louis, Mo.

10. Sorghum and other Sugar Plants—Prof. H. W. Wiley, of this Department.

11. Grasses and Forage Plants—Dr. Geo. Vasey, of this Department.

12. Meat Products.—Dr. D. E. Salmon, of this Department.

In addition to the foregoing divisions of the exhibit the heads of Divisions of the Department of Agriculture have been called upon to make contributions and their several specialties as follows :

Methods of collecting and of sending out seeds—Mr. W. M. King.

Mammals and birds injurious or beneficial to agriculture—Dr. C. Hart Merriam.

Illustrations of the principal fungus diseases of agricultural products—Prof. B. T. Galloway.

Illustrations of the methods of discriminating between adulterated and pure food products by microscopic methods—Dr. Thomas Taylor.

General Agricultural Statistics—Dr. J. R. Dodge.

The attention of all who intend or wish to become contributors to the agricultural exhibit, is called to the necessity of putting themselves into communication with this office, either directly by mail, or through the special agents who are already in the field. The time remaining, though ample, if exhibitors are prompt in making their purposes known, is yet so short as to leave little margin for delay.

It is intended, as far as practicable, to show not only the varied products of the country by samples, but also by means of photographs and models, the methods and processes of cultivating, harvesting and preparing for the market.

While it is the purpose of the Commissioner to make the display one that will be creditable to the country at large, yet the advantages to follow from the spread of information, among foreign peoples, as to the great variety and unrivaled qualities of American agricultural productions, are designed to accrue directly to individuals and associations who may contribute of their products to the enterprise. The name and locality of the exhibitor will be plainly affixed to every exhibit, and will appear, as well, in the official catalogues of the Exposition.

Materials contributed in bulk will be placed in suitable receptacles for display, at this office, and all exhibits will be transported to Paris, cared for, and returned free of cost to the exhibitor.

Organizations desiring to prepare, at their own expense, more elaborate exhibits of the products of a given locality, should communicate at once the extent of floor or wall space they desire.

All materials designed for the Agricultural exhibit must be in Washington not later than the middle of January, 1889, and must be carefully addressed to the undersigned and marked, as must all letters, *Paris Exposition.* C. V. RILEY,

Representative.

Ancient Foolishness.—The following very quaint extract was taken out of a book entitled, "Speculum Mundi; or A Glasse Representing the Face of the World," written by John Swan, M. A., 1635, by T. Bonner Chambers, F. L. S., and sent to the *British Bee Journal* for publication. It exhibits the ignorance about bees 250 years ago :

BEES.—These be those winged workmen, which whether their profit or admiration be greater, I am scarce able to say. For they do not onely busily bestirre themselves to gather hony, which is very useful in the life of man; but they do work it up in most strange manner, and keep it in their waxen cells so rarely built that all the men which the world affords are not able to do the like. Neither is this all: for they live so, as they may be true patterns of needful government, keeping themselves under the subjection of a king, and order of laws. They may well be likewise said to have the soveraignty and pre-eminence above all others of this kinde, because the rest come farre short of their perfections.

It is a creature having foure wings, and bloudlesse, the onely cratts-master of honey. Their eyes are somewhat of a horny substance, hid deep in their bodies, as is also their stings; which when they lose they die :

Vitam in vulnere pronunt :

because their sting and entrails come away together. They want neither tongue nor teeth, and out of their short feet or stumps, there grow forth as it were two fingers, wherein they carry a little stone, for the poysing their bodies in stormy, windie, tempestuous weather; it being a great means to keep them from blowing away and losing their homes.

Neither can it be denied but that by nature they are much different: for some are more domesticall and tame, and others again are altogether wilde, uplandish, and agrestiall. Those former are much delighted with the familiar friendship, custome, and company of men; but the other can in no wise brook or endure them, and therefore they keep their trade of honey-making in old trees, caves, and such like other holes.

As for their breathing, I do not believe it; howbeit they may pant, move, or stirre (as the heart or brain doth), and by transpiration be comforted and made lively: for they be much refreshed by the aire which passeth through their divided places, insomuch that they alwayes use great diligence and care to preserve them from being stopped: for as soon as they be stopped in those passages, they die; as we see if at any time they chance to fall into oyl, or the like liquour, which may stop their pores.

Some make three kings amongst them, differing in colour, as black, red, and divers coloured; but perhaps there is rather one king in a companie, the other like kings may be esteemed as viceroyes. In their breeding, they actually couple together, after which they lay eggs, setting upon them for the space of five and fourtie dayes; then do they hatch their young ones, which at the first come forth much like to white worms, except the king, who only is said to be hatched with wings. And sometimes there is a kinde of bee bred out of putrefation, as authors write. A rotten horse breedeth wasps; a dead calf bees, if the west winde blow; from an asse proceed humble-bees; of a mule, hornets, etc. And whether the bees in Samson's dead lion were bred anywhere else, no man knoweth.

☞ There will be a meeting of the Susquehanna County Bee-Keepers' Association at the Court House in Montrose, Pa., on Saturday, May 4, 1889, at 10 a.m.

H. M. SEELEY, *Sec.*

QUERIES AND REPLIES.

Two Colonies in One Hive in the Spring.

Written for the American Bee Journal

Query 594.—The hives I use take 10 and 12 Langstroth frames, and the hive-entrances are 7 or 8 inches long. Would it be a good idea, in the early spring, to put one of the division-boards in the centre of the hive, thus making two divisions, using the 10 or 12 frame—5 or 6 frames in each division, and put in two queens, one in each apartment, and arrange an entrance-slide in the center of the entrance, so as to make two entrances; and when they have bred up strong, to remove one of the queens, take the division-board from the center, and put the brood from the two divisions in the centre, and take away the entrance-slide?—New York.

It looks practicable, if you have the queens.—MRS. L. HARRISON.

I have found such an arrangement to work nicely.—A. B. MASON.

In early spring, one good queen can lay more eggs than the bees can care for.—G. M. DOOLITTLE.

This would answer all right experimentally; but *practically*—"it never would do."—WILL M. BARNUM.

I think that the plan is too cumbersome to pay.—M. MAHIN.

I have had but little experience in this line. It looks well, but does not "pan out" all right.—H. D. CUTTING.

No. One queen, if good, will lay all the eggs the whole colony can take care of in the spring.—R. L. TAYLOR.

Your plan will work, but I would arrange the entrances at opposite sides of the hive.—J. M. HAMBAUGH.

Your plan has some plausibility about it, but practically I fear in the end there would be little gained.—J. P. H. BROWN.

Theoretically the plan is all right. There is a quicker and cheaper way to get what honey a field affords.—JAMES HEDDON.

I always practice contraction in the spring, though I only keep one colony in each hive. Dr. Miller puts 2 colonies in each hive in winter, I think, and likes it.—A. J. COOK.

I should prefer to keep the bees all together, rather than to attempt to split them up. One queen is sufficient in the spring.—J. E. POND.

No; that is not practical. It looks better in theory than in practice. A good queen, after a good wintering, will fill your 12 Langstroth frames with brood.—DADANT & SON.

No doubt but your plan will work well, but it occurs to me—where would you get *two* queens for each hive in the early spring? I find it no easy matter to furnish all my colonies with one good queen each, in the early spring. —G. W. DEMAREE.

That would undoubtedly work all right if one liked so much *fussing*; but I should prefer smaller hives and less manipulating of the frames.—EUGENE SECOR.

This may work well, but if a colony is strong enough to make two 5-frame nuclei, I would prefer to contract it to its capacity, and let one queen do the business.—P. L. VIALLON.

Everything will work nicely until you come to separate them. Then, if not careful, you will give one queen all the flying force. With the plan given in "A Year Among the Bees," I have no trouble in letting each queen keep her own bees.—C. C. MILLER.

This plan might work very well, but I do not see where you would get your extra queens so early, unless you practice doubling up. I have experimented some on this line, but I have not yet decided whether it is of any advantage. Give it a trial and report in the AMERICAN BEE JOURNAL.—C. H. DIBBERN.

No, do not do it. If a good queen cannot fully occupy the hive before the honey-yield, the hive is too large, that is all. If the queen cannot populate a hive of the proper size, get a new queen. The bee-keeper should work his bees in wholesale lots, and avoid puttering.—J. M. SHUCK.

We can see no advantage in the plan proposed, for one good queen will lay all the eggs required, and all that can be taken care of. The fuss and extra labor would not pay, especially if the apiarist has anything else to do; and the *separation* in the spring may cause more trouble than you expect. Besides, to obtain the extra queen required when dividing, and to profitably employ them after uniting, will be a problem to solve.—THE EDITOR.

Frames for Producing Extracted Honey.

Written for the American Bee Journal

Query 595.—When working for extracted honey, and the tiering-up system is practiced, suppose the bee-keeper uses the Langstroth brood-frame, would it not be more desirable, and would not more honey be secured by using frames ½ the depth; or if that is thought to be too shallow, say 6 or 7 inches deep, and the same length as the Langstroth frame, instead of using the frames in the upper story the full depth of the Langstroth frame?—New York.

I think not.—WILL M. BARNUM.

I believe it would.—EUGENE SECOR.

I prefer a uniform frame above and below.—J. M. HAMBAUGH.

I think not, judging from my own experience.—MRS. L. HARRISON.

I use full-depth frames for extracting.—G M. DOOLITTLE.

I think not. I believe that we cannot afford two sizes of frames.—A. J. COOK.

I prefer a shallow frame for top-storing for extracted honey.—J. P. H. BROWN.

This will give you more frames to manipulate; hence extra labor and no more surplus.—P. L. VIALLON.

The shallow frames are better if you do not mind having two kinds of frames.—C. C. MILLER.

We decidedly prefer frames 6 inches deep, after having tried different kinds side by side for years.—DADANT & SON.

Many of our most successful bee-keepers use a 5-inch frame, Langstroth length, with the best results.—H. D. CUTTING.

I have used half Langstroth depth frames for extracting over 15 years, and I prefer them to full-depth frames. —JAMES HEDDON.

I think that no more honey would be gathered by using shallow frames in such a case, and their use might, or might not, be more desirable, according to the other circumstances.—R. L. TAYLOR.

For extracted honey I prefer a frame not more than 6 inches deep in the clear. Those that I use are 5½ inches, and they seem to be just right.—M. MAHIN.

This is a question on which there has been considerable discussion. I prefer the regular Langstroth frame. I think that the question is a local one, and wholly a matter of individual preference.—J. E. POND.

I think that good results could be secured with frames ½ the depth of the Langstroth frames. I prefer a frame 7 inches deep, but about 4 inches longer than the Langstroth, and would use these to tier up for extracted honey.—C. H. DIBBERN.

For shallow supers, I make them just right to hold a frame that will just take in a 4¼x4¼-inch section; so if I want to use sections, I put in brood-frames. When the bees require more room than is furnished by the shallow super, I remove it and put a full story in its place, using the Langstroth frame, and place the shallow super, if not completed, on a weaker colony.—A. B. MASON.

According to my experience, extending through eight or ten years, I would say yes, if the shallow frames are properly adjusted in cases suitable to the tiering-up system. I would not advise frames more than 6 inches deep. I make mine a fraction less than 5 inches deep, so that 2 frames will go in the extractor made for the standard Langstroth frame. When the season

is very good, I use the standard size of supers interchangeably with the shallow cases, on the strongest colonies.—G. W. DEMAREE.

The honey-yield never depends upon the kind of hive, nor the shape of the frame. Flowers yield honey, if any is gathered; bees are the gatherers, and the combs are the vessels to hold the honey. We may get more honey in a marketable shape by some method than we may by another, but if the flowers *yield*, and the colonies are *strong*, and storage room is abundant, a "log gum" will hold as much as the finest hive in the world, of the same capacity. (Give me credit for priority on this statement. I think that I have a "moral right" to it.)—J. M. SHUCK.

Economy would probably decide this question in the negative. Two sizes of frames are not only undesirable, but unnecessarily troublesome and laborious in the manipulations of the apiary.—THE EDITOR.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00...	
and Gleanings in Bee-Culture.....	2 00....	1 75
Bee-Keepers' Magazine.....	1 50....	1 40
Bee-Keepers' Guide	1 50....	1 40
Bee-Keepers' Review.....	1 50....	1 40
The Apiculturist	1 75....	1 65
Canadian Bee Journal...	2 00....	1 80
Canadian Honey Producer...	1 40....	1 30
The 8 above-named papers..	5 65....	5 00
and Cook's Manual.....	2 25....	2 00
Bees and Honey (Newman)...	2 00....	1 75
Binder for Am. Bee Journal..	1 60....	1 50
Dzierzon's Bee-Book (cloth)...	3 00....	2 00
Root's A B C of Bee-Culture..	2 25....	2 10
Farmer's Account Book.....	4 00....	2 20
Western World Guide	1 50....	1 30
Heddon's book, "Success,"..	1 50..	1 40
A Year Among the Bees.....	1 75....	1 50
Convention Hand-Book.....	1 50....	1 30
Weekly Inter-Ocean.	2 00....	1 75
How to Propagate Fruit.....	1 50....	1 25
History of National Society..	1 50....	1 25

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ The annual meeting of the Ontario Bee-Keepers' Association will be held at Owen Sound, Ont., on Jan. 8 and 9, 1889. W. COUSE, *Sec.*

☞ The twentieth annual convention of the New York State Bee-Keepers' Association will be held in the City Hall, Syracuse, N. Y., on Dec. 11, 12 and 13, 1888. G. H. KNICKERBOCKER, *Sec.*

☞ The 23rd annual meeting of the Michigan State Bee-Keepers' Association will be held in the Council Room at Jackson, Mich., on Dec. 12 and 13, 1888. Greatly reduced rates have been secured at the Hurd House, also at the Commercial House (near the Michigan Central depot) at $1.50 and $1.00 per day. A programme is being prepared and excellent essays are already promised. Any bee-keeper having anything new and useful, and finding it impossible to be present, can send it by Express to Jackson in care of the Secretary, who will place it on exhibition and return it as per orders. Please to come and bring your bee-keeping friends with you. H. D. CUTTING, *Sec*

CORRESPONDENCE.

HONEY-BEES.

Ancient Apicultural History and Literature.

Written for the American Bee Journal

BY HENRY K. STALEY.

Bees have been known to man since the highest antiquity, then living in trees, caves, box-hives, or the conical straw-skeps and other rude habitations prepared by the ancients. That they existed long before the Christian era, we have the Bible as our testimony. Who has not heard of the "land flowing with milk and honey?" or of Samson, how that, when he went down to Timnath, to view his girl, he came upon a young, stalwart lion, which he rent with his hands? or, how that, after a time, when he went to take her to wife, turning aside to the vineyard, he found the carcass of the dead lion inhabited by a populous swarm of busy bees, from whose ossiferous domicile he partook of the honey and ate, also offering some to his parents?

And growing out of this came that mighty riddle of riddles, which he put forth at the marriage feast, completely dumb-founding the would-be expounders, viz: "Out of the eater came forth meat, and out of the strong came forth sweetness." A beautiful thought this is indeed, how that out of a lion's carcass could come that sweet, delicious honey, which the bees can gather from the reddest clover tops to the whitest buckwheat blossoms. No wonder it tempted Samson, for what boy or girl, when buckwheat cakes are in season, does not desire the smooth-healing honey for a covering?

It was on this riddle that Samson declared, that if within the seven days of the feast they could declare it unto him, then he would donate them 30 sheets and 30 changes of garments; but if then they could not expound it, he then was to receive the same from them. At first not being able to accomplish the desideratum, they got his wife to entice her husband to tell her the riddle, and she to them; and having plowed with his heifer (as he appellated her), until she nearly wore the life out of him, he, the man, who at his death, to be avenged of the Philistines, pulled down the pillars of a temple, thus killing more men at his death than in his lifetime; he, the man, with the new jaw-bone of an ass slew a thousand living souls, and carried off the huge doors of the gate of Gaza, bar and all, had to submit to that delicate creature—woman. And as a sequel of this riddle, emanating from the bee, were 30 men slain at Ashkelon by Samson, to purvey goods for those who had wrongfully won the guerdon of the riddle.

This was not the end of that slight affair; for, the Philistines having burned Samson's wife, enraged him the more, so that he took 500 foxes, and, turning them tail to tail, put a fire-brand between to tails, and let them go into the standing corn of the Philistines. Thus we can see, as "great oaks from little acorns grow," terrible results from meager things may follow, as it does from those dirty and abominable apicultural lies circulated throughout the country. And I think that that carcass ought to have the praise of being the first frame hive, and possibly of giving the idea of movable-frame hives to men.

Honey as an Ancient Food.

Honey was held in great esteem by the ancients. Jacob, when he sent his sons down into Egypt, had honey as one of the gifts for the Governor. I wonder if he thought it would soften the temper of Pharaoh, or curb his tongue and ire; for you know how sweet it tastes.

The diet of John the Baptist in the wilderness was locust and wild honey; and Solomon said: "Hast thou found honey? Eat so much as is sufficient for thee, lest thou be filled therewith and vomit it;" and also, "It is not good to eat too much honey; so for men to search their own glory is not glory."

Not long after this Virgil sung of them in his Georgics, and especially in that renowned poem, the Æneid, when he compared them with the enthusiastic Tyrians, thus:

"Qualis apes aestate nova per florea rura,
Exercet sub sole labor, cum gentis adultos
Educunt fetus, aut cum liquentia mella
Stipant et dulci distendunt nectare cellas,
Aut onera accipiunt venientum aut agmine facto,
Ignavum fucos pecus a praesepibus arcent:
Fervet opus, redolentque thymo fragantia mella."

Even this great Italian poet had to stop and muse upon these insignificant insects, which albeit they do come into close consanguinity with the dreaded tape-worm, yet they are one of God's grandest pieces of mechanism among the animal creation—microcosms in themselves.

The bee has two antennæ jointed in about twenty places. Do they not in this peculiarity resemble the tape-worm, that dreaded visitor of people? The antennæ, like the yards of a ship, seem to be the directors of the bee, for it is supposed through them that the bee is directed to the sweet-smelling flowers, or skips to the blooming orchards, and sips the balmy nectar. The antennæ are the objects of touch,

and are supposed to be the objects of smell and hearing.

The Bee's Eyes and Pollen-Baskets.

Each bee has two eyes, compound, which are composed of numerous smaller eyes, having a hexagonal shape. Prof. Frank R. Cheshire, of England, by use of the microscope, counted 6,300 of these smaller eyes on one side of a worker-bee; 4,920 in a queen, the mother of this; and in one of her sons, the tremendous number of 13,090. Think of it, one girl, by a stamp of her dainty foot, can kill an insect with more eyes than the horrible Argus had!

There are also found, on the upper part of the head, three simple eyes called "ocelli." The bee has three pair of legs, compactly located in the thorax; on the hinder pair of legs are little hairs which form the pollen-baskets.

Value of Bees in Pollenizing Blossoms.

The bees go forth and gather the pollen from the stamens of the flowers, carrying it from blossom to blossom, thus fertilizing the bloom. The bee is one of man's greatest benefactors, because it fertilizes the blossoms, thus producing fruit. To show how necessary they are for this purpose, let me quote a few examples:

First: When the spring is too cold for the bees to come out, gardeners who raise early cucumbers in hot-beds often have to transfer the pollen from blossom to blossom with tiny spoons, whereas, if the spring was warm, and the hot-beds uncovered so that the bees could get at the bloom, there would be no need of this.

Second: Red clover was introduced into Australia, and although it grew nicely, no seed of much account could be garnered, because of the imperfect impregnation without the bumble-bee. The trouble with the ordinary honey-bees is the shortness of their proboscis, that is, they cannot reach down far enough into the corollas of the red clover to fertilize them well. So nests of bumble-bees were exported over the briny deep, and with their presence came the much-desired clover seed.

Yes, truly, everything has its purposes and various functions to perform. A nest of bumble-bees in a man's clover patch—if red—providing he is raising it for seed, may be worth about $25, or $50, to him. But woe unto the bumble-bees when the juveniles come forth armed with broom-sticks, tea-kettles of hot water, tin-pans, bells, shingles, clubs, etc., to bombard their domicile, and lay it in ruins by *vis et armis*, although a few are rendered *hors de combat*, and go home bawling to mamma for arnica, or lemon and salt, as an antidote.

Treating a Horse Stung by Bees.

Let me say right here, if any person should be so unfortunate as to have a swarm of angry bees alight on a sweaty horse—for they detest them when in this condition—quickly smoke off the bees, throw a blanket over the raging animal, give him a dose of laudanum, and rub him down with baking-soda, and this, if the case is a bad one, may be depended upon as almost the only cure.

Bee-Stings and Rheumatism.

A swarm of bees may contain from 5,000 to 30,000, or even as high as 45,000 bees, having one queen, a few drones, and the rest workers; so a person can see if 10,000 bees should ply their swell-producing pins, it would be enough to make a horse crazy or a man a maniac. Its effects were illustrated in that article, "A Victorious Army Put to Flight by Bees," written for *Harper's Young People*, where victory and success were turned into bedlam by the stings of bees.

One thing which they say bee-stings are good for, I must not fail to mention, and that is rheumatism. If you are in any way troubled with such in your lower limbs, procure a pair of trousers with broad legs, not forgetting to have strings ready to tie them at the bottom, so that the bees cannot crawl out. Having obtained a bottle-ful of honey-bees, run them up the leg of your pantaloons, and being sure you have tied the pants at the bottom, uncork the bottle from the inside of your pocket.

Now all is ready to excite the medicine and cure the rheumatism. The way to set the stingers in operation is to start and run a race with some friend, and no matter how hard they bite, persevere and they say it is a cure. This may be a "scientific pleasantry," but there is no school like the school of experience, you know.

How the Bee Gathers Pollen.

To return to the pollen-baskets: The bee gathers the farina with its tongue and the hairs of its legs and body; then by means of its tongue and legs it moulds the pollen into little balls. These balls are then taken up by the front pair of legs, transferred to the second pair, and then with the middle ones it is packed away into the pollen-baskets on the hinder ones, until it often hangs over like hay does on a wagon. Having reached its home, the pollen is deposited in a cell; then using its head as a battering-ram, the farina is compressed into the bottom of the cell.

The toad is one of the bee's deadliest enemies. In the evening it comes around to the hive and, watching its chance, it springs into the air, at the same time giving its oyster-shaped month a funny motion, and Mr. Bee is gone. The toad will thus catch lots of them, and grow fat off of the sweet convivium.

A Colony's Care for its Queen.

The queen is the mother-bee of the colony. She is treated with the greatest respect and affection by the bees. A circle of bees constantly environ her, or else a retinue follow after, offering her their sincere affections, either by gently caressing her with their antennæ, or feeding her with honey from time to time. If they are deprived of her, the whole colony is thrown into a state of the most intense excitement, either rushing over the combs or flying a short distance from the hive in search of their beloved mother, soon returning to join the excited throng.

Finally becoming cognizant of their terrible misfortune, the bees return to their home, and with sorrowful tones reveal their deep sense of so deplorable a calamity. All business is suspended—just as when a great human king or queen dies—and if another queen is not soon introduced, or eggs supplied from which they can rear one the colony soon perishes, wasting away in numbers, and becoming too careless to repel the ravages of the devastating bee-moth.

What scene could more minutely or pathetically describe the death of a queen or king among men, than this of a colony of bees when deprived of their mother? Upon the announcement of the death, the people rush forth from their houses, business is suspended, they gather together in motly crowds and discuss the situation, showing by their lethargic forces, hypochondriacal ways and sobbing tears the depth of their loss.

The Workers and Drones.

The workers are the neuters, or the bees that gather honey. In them lies the strength of the colony, being sometimes from 10,000 to 30,000 strong. They visit either flowers that are foul-odored, or those of a sweet, aromatic flavor, sipping up the soothing nectar, diving down into the chalice of the lily as well as the corolla of the common white clovers.

Up to about the first ten days of their lives they are the house-keepers, sweeping up the floor with their slender limbs, or propolizing the cracks to keep out the whistling wind. This propolis is gathered from flowers and

trees, delightfully described by Evans, thus :

"With merry hum the willow's copse they scale,
The Fir's dark pyramid, or Poplar pale ;
Scoop from the Alder's leaf its oozy flood,
Or strip the chestnut's resin-coated bud ;
Skim the light tear that tips Narcissus' ray,
Around the holly-hocks hoar fragrance play ;
That forms a fretwork for the future comb,
Caulk every chink, where rushing winds may roar,
And seal their circling ramparts to the floor."

The drone bees are the males of the hive, and, like many people, are inveterate loungers. They have no stinger, the shortness of their proboscis disqualifies them for gathering honey, their thighs are destitute of baskets for holding bee-bread, and no pouches are found on the abdomen for secreting wax.

Like the Indian to the squaw, the drones live off of the workers until those little creatures find there is no further use for the gormandizing drone, when they seize him by the neck or any other part of the body, pull him out, sting him to death, and hurling him over the alighting-board, Mr. Drone is *non est.*

Dr. Evans very appropriately describes drones thus :

"Their short probascis sips
No luscious nectar from the wild thyme's lips,
From the lime'a leaves no amber drops they steal,
Nor bear their grooveless thighs the foodful meal :
On other's toil in pampered leisure thrive
They, lazy fathers, of the industrious hive."

Thus we see many peculiarities of people are found in the bee. There are the wild bees as there are the wild people ; the cultivated bees as there are cultivated people ; the qeens with their royal retinues, the robbers plying their nefarious tricks, idle loungers, etc. So Shakespeare, recognizing this, said :

"So work the honey-bees,
Creatures that by a rule in Nature teach
The art of order to a peopled kingdom.
They have a king and offi ers of sorts,
Where some like magistrates, correct at home,
Others like soldiers, armed in their stings,
Make boot upon the summer's velvet buds ;
Which pillage, they with merry march, bring home
To the tent-royal of their emperor,
Who, busied in his majesty, surveys
The singing masons building roofs of gold ;
The civil citizens kneading up the honey ;
The poor mechanic porters crowding in
Their heavy burdens at his mansion gate ;
The sad-eyed justice, with his surly hum,
Delivering o'er to executors fate
The lazying, yawning drone."

Pleasant Ridge, Ohio.

BEE-WORK.

Methods and Implements Used in the Apiary.

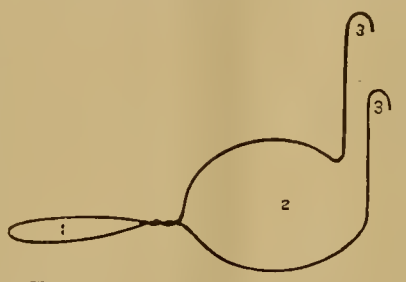
Written for the American Bee Journal

BY G. P. HACHENBERG, M. D.

In my article on page 519, I advocated the superiority of a simplicity bee-smoker, but neglected to mention the kind of fuel I use with it. It is an excellent smoker with rotten wood, but the best fuel to give the best results is corn-stalks cut up in short pieces. The way I do is to fill the can with cut corn-stalks, with a few chips of wood to hold the fire.

I ignite it with a little kerosene oil, and afterwards modify the blaze with the metallic fan. Soon a smoldering fire is established, and the smoker is fit for use. It will do any bee-man good, that has any faith in smoke for the subjugation of bees, to see the gushing volume of smoke coming from that can—not in short intervals, as in the ordinary bellows-smoker, but in a ceaseless, continued flow sufficient to last for any ordinary work on a hive.

There is another important item in the use of this smoker. A wire rack



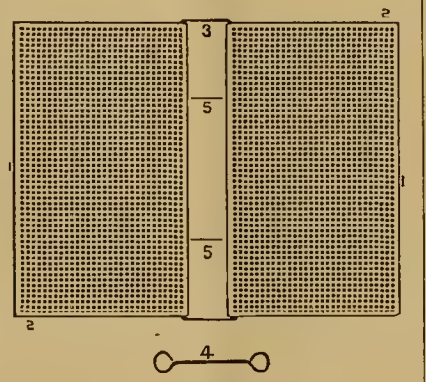
1. Handle. 2. Place to hold the smoker. 3, Hooks to hold it.

Rack for Holding the Smoker.

is used to hold the can, so that the upper edge is level with the top of the hive. This rack, illustrated here, with its hooks, usually is adjusted, leaving the hive on the lee side.

Holding the Comb when Extracting.

Another subject that may demand an explanation is the management of



1, 1. Two lids of equal size, made of light galvanized wire-netting. 2, 2. The outside bound by tin. 3. A wire to hold the lids together, and likewise serve as a hinge between the two. The two stems (3) are about an inch apart and connected. Where inside cloth of the wire is used, different hinges must be used, such as 4, to be placed at 5.

Comb Supporter for Extracting.

natural comb in the process of capping and extracting, so as to keep them from going to pieces. I mean comb not supported by wire, or made on foundation. To meet the difficulty I made a pair of wire-netting clasps to receive the comb in a way to give support to both sides, both in capping as well as extracting.

The illustration will show how this comb supporter is made.

Although I am the originator of this implement, I have good reason to be very proud of it ; for it is a good thing in an apiary. With it I meet with no vexations by injuring in the least the frailest comb. There is another use to which it can be applied. Slip it into a tin frame with a close bottom, This gives a receptacle for cappings, which in a minute can be thoroughly drained of its honey by the extractor.

Reversing Combs in Extracting.

Allow me here to suggest an improvement that could be made, in the extractor itself. In this age of lightning haste, it is a tedious operation to handle a comb twice, or oftener, in passing it through the extractor. To do good work a comb should go through a double process of extracting. This, however, is not always done for want of time. But if the drum of the extractor was a little larger in diameter, and the comb worked on pivots, so as to reverse the sides, simply by reversing the action of the crank, extracting honey could be greatly expedited. Such an extractor could be easily made, and would be cheap almost at any price.

Rendering of Beeswax.

I have tried different methods of rendering wax, and some that cost me a good deal of money. I must humbly confess that this wax business has been the "sand in my bread." Finally I made a sun wax-extractor, and was pleased with the purity of the wax it afforded me. But for an extensive apiary it is a process too slow and uncertain. The fault with a sun-extractor is that the solar heat may be sufficient to melt away surface wax, but it lacks penetration (as wax is a poor conductor of heat), and unfortunately a heavy body of it will not melt away before the rays of the sun, as would a cake of ice. And another defect is the loss of heat by conduction.

To meet in a measure the above difficulties, I took a good-sized store-box and knocked out two connecting sides of it ; these I covered with two glass windows. Inside of this box I placed a large hotel tin-tray, that I happened to have, with a sufficient incline for the melted wax to run of. The wax enclosed was exposed to the direct rays of the sun, and as it melted (by a process too slow for me) it was received in a tin basin.

To improve things I placed a kerosene lamp, burning rather low, within the large vacant space of the box—not to heat the tray as much as to com-

pensate for the loss of solar heat by conduction. By this operation I increased the flow of wax a hundred fold—and it was as free from impurities as if the sun alone had done the work.

The advent of cold weather put a stop to these operations, leaving me several hundred pounds of wax unrendered. I dumped the whole into a large water tank heated by a furnace. After the mass was all melted down, cooled, and rid of the substrata impurities, I remelted it in dry heat with a high temperature, leaving the melted wax to run through a close wire strainer into hot water.

Fastening Frames in the Hive.

In my article on page 519, I spoke of fastening the comb frames from the inside of the hive to keep them in place; but since then I have much improved on that plan, and now I fasten them from the outside with wire nails about 1¾ inches long, leaving the head end of the hail exposed nearly half an inch. In the inside the nails are forced into a groove of the upper cross piece of the frame, that is made for the narrow strip to hold the foundation or starter. The holes in the hive to receive the nails are made large enough so that they can be pushed or forced in with but little resistance.

I am now reconstructing all of my upper stories in that way, as I go along in exchanging combs in extracting. With a tin gauge the holes are always made true to their place, and made with rapidity. This arrangement will always give us nice, uniform combs, and save time and comb in capping and extracting, etc.

Exposed Honey and Robbing.

Will honey exposed in an apiary cause robbing and a demoralization of the bees? I paid considerable attention to this subject, and finally came to the conclusion that honey can be exposed with impunity under peculiar circumstances.

Perhaps it may shock some people to tell them that I often feed back refuse honey to the bees in the open air, such as extracted cappings, unwashed honey-vessels, etc. But I only do this under a healthy government of my apiary, under the assurance that all my hives are well supplied with honey, and this refuse honey is never exposed near a hive. A hungry dog is always a thief.

But mark this precaution: When I pile up three or four stories of extracted comb over a hive that has storage for honey, to have them cleaned out, I always lessen the entrance of the hive. This is to prevent robbing. Now in this there is no contradiction. The fact is, you may expose a barrel of honey in the woods away from any apiary, and bees will take it away, but molest none of their neighboring hives on that account.

In a good honey season, when bees are busy gathering honey from flowers, such an exposure of refuse honey will not attract them, unless it may be a few smooth-back, lazy bees that wear themselves out in the friction of stealing. At one time, in the honey season, I placed a piece of comb full of honey near the entrance of a hive. In a week I removed it, and found the honey still in the comb.

It is true that I have had honey exposed, and it appeared that the robbers made a raid on several hives at the same time; but after an investigation I found that the cause was not as much in the honey that was exposed, as in some defect in the unfortunate colonies that were assailed, as being queenless, weak, that were already in a starving condition, or molested by moth, etc.

It is a good rule, as soon as a hive is raided by robbers, not only to lessen the outlet, but see what is wrong with the hive itself. A healthy colony of bees is always respected. I had one colony the past summer that had not much more than a handful of bees. All summer long it struggled for existence and for an increase. But the colony was healthy and well organized, and notwithstanding its rich neighbors, it was by them never molested in the least. But let any morbid influence be brought to bear on that little colony, the robbers by some intuition will soon find it out, and in less than an hour clean it out entirely.

Defenders and Fighters of a Colony.

There is another interesting subject in connection with the bees, that has recently attracted my attention and that is, which are the defenders and fighters of a colony? Are they a distinct class of bees assigned for that function, or are all workers warriors when the occasion demands it?

I am inclined to believe that each colony has a standing army full of fight and viciousness. This army in some hives is very numerous, in others of a very limited number. It is this that gives temper to a colony. I have some that are so vicious that it is with the greatest difficulty that anything can be done with them; others so docile and harmless that they hardly show any resistance in handling.

But what made me in particular think that the fighters of a colony are a distinct class, was the way the bees conducted themselves that happen to get inside of my honey-house, where the extracting is done. Those that follow me in, on the warpath, would buzz around me, and often sting me even two days after their captivity; but those that got in simply for plunder, were harmless, and manifested no resistance by any handling, except they should be accidentally pressed by the fingers. These two classes I repeatedly held as prisoners for several days, in order to watch their actions in regard to this matter. I do not know that there is any physical difference between them, as I never made a microscopic examination of the two; but I might do so in some future time.

That the stinger in the worker is conclusive that it is a fighting bee, does not make it so; otherwise the queen would be as belligerent as some of the rest. In defending a hive it appears that the drones mix up some in the melee, but only as a set of noisy bull-dosers.

Austin, Texas.

MOISTURE.

Its Effects on Bees in Cellars Easily Avoided.

Written for the Bee-Keepers' Review

BY R. L. TAYLOR.

So far as I have been able to discover, there is nothing that would lead me to suppose that moisture affects the welfare of bees in any respect differently from the manner in which it operates upon the well-being of the larger animals. The problem involved in "Moisture" seems to me not to be a difficult one if we remember two facts, viz: that heat expels moisture; and that moisture furnishes an excellent medium for the escape of heat. So, it is evident that, in the discussion of this question, these two elements must be taken as independent; that is, what might be an injurious amount of moisture in one case might be perfectly harmless in another, owing to the existence of a higher temperature.

And it is plain that this matter of heat presents two aspects, viz: the internal heat, so to speak, of the clustered colony, and the temperature of the surrounding atmosphere. Each should be taken as complementary of the other—the higher the one, the lower the other may be permitted to be. The well-fed, fat and vigorous ox throws off the moisture left on his sleek hide by a shower, in clouds of vapor, even in a low temperature; while an ox of low vitality, ill-fed and lean, in the same temperature would remain wet and shivering; but if the temperature were sufficiently raised he would throw off the moisture equally as well

as did the other in the lower temperature.

We must recognize the same distinction between strong, healthy colonies of bees and those weak in numbers and vitality. While I say this, I do not think there is anything to fear from the moisture of any ordinary atmosphere. There is no danger from moisture in the dampest of cellars, only it will not answer to arrange the hives and their trappings so as to collect the moisture. If there is much moisture, the temperature must be under control and kept well up; and the hives so arranged as to favor the expulsion of the moisture. All that is necessary in order to guard against any ill-effects, even from a saturated atmosphere, is well-fed colonies of fair strength, in well ventilated hives, kept in a temperature of from 45° to 50°.

A cellar can scarcely be so dry that moisture will not drip down the inside of the hive if the temperature be low; and while this indicates too little warmth, it is not necessarily injurious. The important point is to keep the moisture out of the cluster; hence it follows that the fact that the moisture is so great that mold gathers on the comb is not in itself any proof that the conditions are unfavorable to the well-being of the bees.

Having had considerable experience with both damp and dry cellars, I am firm in the belief that there is nothing to fear from the effects of any atmospheric moisture, if one only bears in mind the principles above hinted at—providing the conditions indicated which will enable the bees to drive that moisture away from the cluster.

Lapeer, Mich.

LESSONS.

Some Lessons Taught by the Past Season.

Written for the Country Gentleman

BY PROF. A. J. COOK.

The past season has been the most discouraging one for bee-keepers in the memory of man. This seems to be true, not of one State only, or even of one country alone. Every State in our country, Canada, England, Germany—in fact all Europe—are chanting the same dirge. It would be interesting to know just the cause of this universal honey drouth. It is probable that the cause is not one-and-the-same in all the localities. In the North and Northwest of the United States, it is plainly, two; yes, even three, successive seasons of unparalleled drouth. Such continuous drouth not only dries up the nectar-fountains of the flowers, but it also kills or dwarfs the very plants that bear the flowers.

No Adulteration.

Discouraging as has been this drouth of nectar, and consequent ill-success of honey-producers, the season has not been without its valuable lessons. One of the most baneful influences that has worked against bee-keepers for several years, is the quite general impression that honey is largely adulterated. Many like honey, and would use it, except for this wide-spread fear—bugbear, I may say—of adulteration.

The truth is that comb honey has never been adulterated, and extracted honey never by the producers. Some years ago when honey was very high-priced, extracted honey was widely adulterated. Now it is so low-priced that such adulteration does not pay, and so is discontinued. It was hard to convince people of this truth. The past two seasons of scarcity, however, have shown that this cry is wholly baseless. I have made a very careful investigation, and I feel quite sure that honey is not at present adulterated even by dealers. In showing that this accusation is false, the past seasons have conferred a very substantial benefit on the bee-keeping industry.

Bee-Keeping as a Pursuit.

Another lesson is that bee-keeping serves best as a supplementary pursuit, and not as an exclusive business. I know of farmers who have, in past seasons, secured hundreds of dollars from bees, and yet carried on their regular business with no special difficulty. In several cases, and for several successive years, the proceeds of the apiary have exceeded those of a good farm.

For physicians and ministers, bee-keeping serves even better than for farmers. Here it not only supplements the earnings, but gives exercise that often conserves the health. In every case the bee-keeping breaks the routine, and so serves as a recreation. Indeed, few industries afford more pleasure to, or awaken more studious interest in, those who wisely engage in it, than does bee-keeping.

While the past two years are very discouraging to the bee-keeping specialist who has all his "industrial eggs" in one basket, they are not at all so to the person who has other means of support. While he has secured little or no returns, he has been to very little expense, and he knows that he has a good net spread to "catch the game" when it comes. While, then, two such unfortunate seasons are severely trying to those whose only means of support are tied up in bees, they are only disappointing, not disastrous, to him who has apiculture as only one of the excellent strings to his industrial bow.

The past season then pronounces with emphasis that bee-keeping is not for the specialist, but for him who would add to other pursuits one that combines profit with pleasure, and, if his life is sendentary, with wholesome recreation as well. While bee-keeping has done well for the specialist, it serves better as a supplemental pursuit.

Migratory Bee-Keeping.

The third lesson of the season to the bee-keeper is the importance of honey-plants, hitherto not sufficiently appreciated. Mr. R. L. Taylor, of Lapeer county, Mich., a large and successful bee-keeper, secured only enough honey for his bees, while neighboring bee-keepers, near a large marsh, secured a remunerative harvest. So moving bees a short distance, in such years, may transform what would otherwise prove to be a failure and discouragement, into gratifying success. Henceforth bee-keepers will be on the lookout to discover how, by migratory bee-keeping, they may bridge over the disaster occasioned by unpropitious seasons.

New Honey Sources.

Again, it has been discovered this year that other than generally recognized sources of honey may come to the rescue in such years. Thus the cucumber plantations in certain parts of Illinois have not only paid the growers a good profit, but have furnished nectar, so that the bees have gathered a good harvest. Bee-keepers thus learn that it may pay a double profit to secure a pickle factory in their neighborhoods.

In Illinois, Iowa, Nebraska, etc., a large crop of honey—fine honey—has been secured from Polygonum, *P. Pennsylvanicum*, which grows spontaneously in the corn-fields. This plant belongs to the same family as do buckwheat and smart-weed. The flowers, however, are a very bright pink, and the leaves and stems have not the pungent character that is possessed by those of the smart-weed. It grows, too, on upland, and not in low places. The bee-keepers all over the country call this heart's-ease. This certainly is a very appropriate name, and may well be transferred from pansies to this polygonum in all our botanies.

Special Planting for Bees.

The fact that some plants furnish nectar, even if the seasons are dry and unproductive, makes it important to test the matter of special planting for bees. Is it possible to cultivate a plant that will keep the bees busy, independent of the weather? If so,

how many acres would be required to supply 100 colonies of bees? These are questions that I have undertaken to solve, under the auspices of our Experimental Station.

I have just sowed eight acres of *Cleome integrifolia*, or the famous Rocky Mountain bee-plant. This beautiful flower blossoms from early August till frost. In Colorado it grows on the dry fields with no irrigation. It furnishes there much excellent honey. I have grown it here for several years in small beds, and find that bees are always working upon the flowers in their season. I have hope that it will prove a great blessing to bee-keepers.

I am also trying three other promising plants, and expect to show that it will pay, or else that it will not, in which latter case I will save private expenditure in similar experiments.

Agricultural College, Mich.

MARKETING.

Hives and Surplus Comb Honey Receptacles.

Read at the Central Ills. Convention

BY JOS. M. HAMBAUGH.

The hive we want is the one that will bring us the most honey, and the one easiest manipulated for the rapid storing of honey in its most marketable form.

There is, however, some prime factors to be understood for the obtaining of the necessary force to reap the very first results, for without a strong force of bees at the time of bloom, and when the elements yield up the precious nectar, our efforts will come to naught. Then I maintain now, as in the past, that we must cater to the needs of the queen as regards her power of reproduction, in order to obtain the very best results numerically from our colonies, which is a prime factor in obtaining an abundant harvest of honey; and any device, whereby the queen is hindered in rapid depositing of eggs in the proper season, is a detriment to the apiarist, and costs him many pounds of honey.

The hives, to be non-swarming, must be capable of expanding, to meet the needs of an extensive army of workers, and at the same time we should be able to quickly contract them to any small-sized nucleus; by this means we have increase practically at our command, if we will be awake and attend to the bees in their season.

As the markets call for honey in comb form, in one and two pound sections, of course our receptacles must be put up to accommodate this size of package, and if we can persuade our bees to build the sections marketably without separators, I would advocate their abolishment; but this is a debatable question, and one not fully settled in my own mind.

The Prevention of Increase.

There is another question of more vital importance to the apiarist than the use, or non-use, of separators, in working for comb honey, and one which we believe to be more difficult of solution, viz: the prevention of increase, and how to induce the bees to work in the sections. A practical method that will solve this problem, will be a boon to the apiarist, and we will listen with interest to all arguments in that direction.

It has always appeared to me that combs the size of one pound sections were contrary to the laws governing the household economy of the bee; and when they occupy them it is with reluctance, and only under force of circumstances; their brood-chamber must be filled to its utmost capacity, with brood, pollen and honey, and then only for pastime will they cluster in the sections, and gradually deposit a small amount of honey therein, until sufficient "steam" is raised to engender the swarming fever, when out go the bees, and the sections are left as empty and void of workers as a church-house garret.

It is the swarming nuisance that is a menace to the comb-honey producer, and any surplus receptacle that will overcome this difficulty, will be a boon to the bee-man, as well as to the consumer.

I also believe that a skeleton break-joint or zinc honey-board used in the center of the hive is a detriment to the progress of the bees, more or less, and should be excluded. In manipulating for extracted honey, the case is quite different. Combs put up more in accordance with their natural instincts, can be placed above the brood-chamber, and with little or no ceremony they are quickly occupied, and the apiarist can expand the size of the surplus department to accommodate the size of the colony, by adding more combs and cases; and the force and attention of the bees being turned to honey-gathering, the swarming impulse is almost wholly overcome.

To sum up: 1. Let us see that the hives and combs are put up in a way that will give the queen a chance to develop her strength. 2. See that the surplus receptacles are arranged so that they can be accommodated to the needs of the colony, be it strong or weak, and abolish as much as possible all complicated features. Let all frames, hives and surplus receptacles be made by a pattern, and use no other throughout the entire yard. Let all hive-stands, bodies, covers, brood-frames, etc., be interchangeable with any hive in the yard, and you will be prepared to combine pleasure with profit in your bee-keeping.

Spring, Ills.

BEE-CELLAR.

When and How to Put Bees into Bee-Cellars.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

What is the best time to put bees in the cellar? October, November or December? Surely, you have me now, and I can only say, I don't know. I used to be as wise as an owl on this subject, and recommended putting them in late, thinking that there is generally a warm spell in the forepart of December, and that it would be better for the bees to have a cleansing flight during this time, before they retired for their long rest. They clean house during this mild spell, and carry out many dead bees, and I thought that they would die in the cellar, and had better be left out-of-doors. These bees that die might live much longer in the cellar, and might or might not be a benefit. If there are plenty of bees without them, then there would be no profit in feeding them longer.

A successful bee-keeper of northern Vermont told me that he always housed his bees when dampness gathered on the glass of his observing-hive. Now a thoughtful person will readily see that the right condition for housing bees will not occur in central Illinois at the same time as in Michigan, Vermont, or Iowa. I am now of the opinion that the best time to house bees in any locality, is when they hibernate, or in other words, are compactly clustered. Reports favored the putting of bees away as soon as October, at the late convention, but in this county, up to date (Nov. 15), there have been but few days when the bees were not upon the wing.

The Best Time to Move Bees.

It is during daylight, of course; "for the night cometh, when no man can work." In the morning, when the person who carries them is fresh, and has nerves steady—that is the best time of all.

Hives should be dry, and the entrances closed; then any person of sufficient strength can carry them without fear. Most inexperienced persons are afraid of bees, and if the hive-entrances are open, and the hive in tran-

sit be jarred or knocked against something, the bees would rush out, and the person carrying them drop the hive, when the consequences would be very serious.

Should a cold day or a warm one be chosen for moving bees to the cellar? The night previous to moving them, I would leave the cellar open, so that the temperature would be nearly like that out-doors—a temperature of 35° would do very well. The temperature being the same, would help to keep the bees quiet. On a cold day, combs break easily, and on a warm day bees would be restless and want to fly.

When hives are covered with ice and snow, it is a poor time to handle them—unpleasant for both the bees and operator. When the bees are all carried in, leave the cellar open and the hive-entrances shut until the next morning, when they can be opened, as the bees will then be quiet, and the cellar closed and darkened.

Some bee-keepers claim that light in a cellar does no harm, but I prefer it to be dark; darkness has a quieting effect on all animated nature, and bees are no exception. It is true that no one has ever found them sleeping very soundly, but they do not leave their hive so much in darkness as in light.

Advantages of Cellar-Wintering.

One big item is the saving of stores. It is also a saving of hives, as they are protected from the elements for 5 or 6 months of the year, but the greatest good is in keeping the inmates in good health. The last 5 years we have wintered half of our bees in the cellar, and would put in more if there was room.

One winter there were as many colonies in number lost in the cellar as there were out-of-doors, but this was in their favor. Parties who came to purchase colonies in the spring, invariably chose those that had passed the winter in the cellar, as they could see at a glance that they were the most populous.

There has been a great deal said by bee-keepers about lugging hives in and out of the cellar, in comparison with chaff hives, and leaving them upon the summer stands. Two laboring men will carry 50 colonies into our cellar in less than half a day; it has no outside door, but they are taken through a window.

Peoria, Ills.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

AN AUTUMN SECRET.

Written for the Ætna

BY J. K. LUDLUM.

I stand at the gate in the garden
And gaze o'er the level field,
Yellow and ripe in the sunlight,
That perfect harvest will yield.

Down from the broad *maple* branches
The leaves are fluttering slow,
Touched by the brilliant tipt brushes
Of elves that set them aglow.

A perfumed south wind comes stealing
And whispers among the leaves,
Then like a mischievous truant
Slips on to the ripe wheat sheaves.

The *asters* are royal purple,
And stand in kingly array,
Gallant and tall at the roadside,
Like guards of the autumn day.

They challenge the wind in passing,
But soft, he whispers a word
And all the guards bow before him
As soon as the word they heard.

And I 'neath the *maple* shadows
Behind the old garden gate—
I heard the message delivered,
And hold it inviolate.

And lo, my heart is a-kindle
With strong, and burning desire;
I glance at the branches o'er me
A-gleam with the magic fire.

Next day to the gate in the garden
Over the frost-sprent sod
I pass as a loyal subject
To welcome queen *golden-rod*.

CONVENTION DIRECTORY.

1888.	*Time and Place of Meeting.*
Dec. 11-13.—	New York State, at Syracuse, N. Y. G. H. Knickerbocker, Sec., Pine Plains, N. Y.
Dec. 12, 13.—	Michigan State, at Jackson, Mich. H. D. Cutting, Sec., Clinton, Mich.
1889.	
Jan. 8, 9.—	Ontario, at Owen Sound, Ont. W. Couse, Sec., Streetsville, Ont.
Jan. 9-11.—	Nebraska State, at Lincoln, Nebr. J. N. Heater, Sec., Columbus, Nebr.
May 4.—	Susquehanna County, at Montrose, Pa. H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Uniting Colonies, etc.—D. E. Robbins, Payson, Ills., on Nov. 19, 1888, writes:

In the report of the Union Bee-Keepers' Convention on page 747, I am said to use for uniting colonies a method that is hardly what I intended, through some misunderstanding. We were discussing the prevention of increase, and after several plans had been given, I remarked that the method of preventing increase by uniting colonies had not been touched. Having last summer a number of colonies with mismated queens, and not wishing so many colonies, I removed the poor queens, and in one, two, or three days thereafter, I united the queenless colonies with the weaker of those having pure queens, in some instances by alternating the combs of the colonies, and in other cases by placing the hive containing no queen, on top of the other. (I use the Simplicity hive.) This I did at any time of the day when most convenient; but it was during a good honey-flow, and in every instance proved a perfect success. Some discussion followed as to the danger to the queen, and some advised always caging the queen; then I remarked that I paid no attention to that. This proved profitable under the circumstances, as the two weak ones united made a first-class colony, and gave much more surplus than both would if kept separate. The best united colony gave 170 pounds of extracted honey; the best yield from a single queen was 150 pounds, which weighed over 12 pounds per gallon.

Bees did Fairly Well.—Wm. Shier, Marlette, Mich., on Nov. 22, 1888, says:

I commenced last spring with 15 colonies in a rather indifferent condition. I lost half of my bees in wintering, consequently the surviving ones were quite weak. However they did fairly well, having increased to 31 good colonies, and produced 1,100 pounds of fine comb honey in one-pound sections. I winter my bees on the summer stands, in chaff hives.

Well Supplied with Winter Stores.—J. M. Young, Rock Bluffs, Nebr., on Nov. 23, 1888, writes:

Bees throughout this section of the country are well supplied with stores sufficient to last them until honey comes again in the spring. My apiary of 60 colonies has been in charge of other parties a portion of the past summer. My attention being called away on other business the most of the time, hence the bees have not received the care and attention that they should have had, and only a part of a crop of honey has been obtained, and that being comb honey. From this time on I expect to be with the bees, and give them my personal attention. But few swarms have been obtained by bee-keepers throughout this neighborhood. Comb honey is selling for from 18 to 20 cents per pound. There is not much extracted honey on the market; it is selling at from 12 to 15 cents per pound.

Bees in a Raging Storm.—Henry Alley, Wenham, Mass., on Nov. 26, 1888, writes:

For the last 24 hours a terrible storm of wind, rain and snow has raged. My bees have suffered some from the water, as it was impossible to keep the caps on all the hives.

Photography and Bee-Keeping.—Geo. A. Walrath, Norwood, N. Y., on Nov. 12, 1888, writes:

How would it do to combine bee-keeping with photography? I live in a town of about 1,600 population, and have a good photographic business, but I find time to look after my bees, which is a recreation as well as a profit. I began in the spring of 1887, with 5 colonies, which I increased to 13, and bought 10 colonies more in box-hives, in the fall. This season I started with 24 colonies, increased them to 33, and purchased 20 colonies more this fall, at $2.50 per colony, in Simplicity hives, which makes me 53 colonies now. I got only about 500 pounds of comb honey this season, and 8 swarms from 24 colonies, spring count. This is the poorest season that I ever knew

in St. Lawrence county. White clover yielded no nectar, and buckwheat was cut by the frost on Sept. t ; since then there has not been a drop of honey, and it has been cold and raining about 20 days out of the month. As a result, I have not been able to look through the hives and prepare the bees for winter. I think that some of them will have to subsist on candy. I introduced 3 Carniolan queens in August ; the first one was introduced by taking as many frames of sealed brood as would fill a hive, without any bees adhering, and keeping in the house with the queen confined until the brood had mostly hatched, when it was put out, a full colony of bees.

[Photography and bee-culture are admirably adapted to go together, as you have no doubt discovered experimentally.—ED.]

Silver Lining—Pure Honey.—J. C. Armstrong, Bromley, Iowa, on Nov. 27, 1888, writes :

"All is well that ends well." I am able to give a little better report for my bees from that given on page 515. Then, apparently, the best part of the honey season was past, and many of our bees were on the point of starvation. They remained in that condition until about the middle of August, when the long-looked-for "silver-lining" came ; when for nearly a month, I think, I never saw hives fill up so fast before. Some of my best colonies filled up one set of sections, and were crowded for room before I was aware of it. Unfortunately a light frost came on the night of Sept. 12, followed by cool weather, which checked the honey-flow, after which they did not more than hold their own. My bees have ample stores for winter, and, like all others, I am looking for a good honey season next year.

While I have the subject of honey, I wish to ask the readers of the AMERICAN BEE JOURNAL a question for information (and no one needs it worse). We have, for some length of time, read through the papers a great deal about pure and adulterated honey. In such reading I have mentally asked the question, "What is pure honey ?" Prof. Cook says that it is "digested nectar." All right ; but is not the nectar of one flower different from that of another ? The nectar from white clover is different from that of buckwheat, both in color and flavor ; hence there must be ingredients in the one not found in the other. A person analyzing different samples of honey, as has been done to show up the dishonesty of bee-keepers, and having the common idea that bees *make* honey instead of gathering it from the flowers, and taking white clover honey as pure honey, would pronounce buckwheat honey adulterated. Hence the question, what is pure honey ?

Ready for the Winter.—W. V. Bosworth, Jr., Clockville, N. Y., on Nov. 23, 1888, says :

I have 60 colonies in good condition for winter in chaff hives, and, like all bee-keepers that have had their eye-teeth cut, and have learned by experience that one head does not carry all the knowledge there is in bee-keeping, I hope to have the same number next spring.

The Time for Reading has come, with the long winter evenings. We have a large stock of bee-books, and would like to fill orders for them. To read and post up is the way to succeed in any pursuit—in none is it more important than in bee-keeping.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must go by express.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents ; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen ; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows :

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 120 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

☞ **The National Bee-Keepers' Union** fiscal year has heretofore ended on June 30. Sometime since it was proposed to have it end with the calendar year. It was submitted to vote, and every vote so far received is of the same tenor as the following from Mr. H. K. Staley, Pleasant Ridge, Ohio :

At the request of the Manager of the Bee-Keepers' Union, for the members to vote on the proposed change for the paying of the annual dues from June to January, I vote in the positive, or in other words, I favor the change.

If any one wants to vote in the negative, please let it come at once ; if none are received by Dec. 10, the motion will be declared to be carried, and the change made accordingly, by consent.

This change will make the time for paying dues and voting for officers come on Jan. 1, and blanks will be sent out on Dec. 15, for that object—unless somebody votes against the change.

International Bee-Convention.—The Pamphlet Report of the Columbus, Ohio, Convention is now issued, and copies have been sent to each member, as well as to the Colleges, Agricultural and Horticultural Societies and periodicals devoted to the industry. Copies can be obtained at this office, by mail, postpaid, for 25 cents. This pamphlet contains the new bee-songs and words, as well as a portrait of the President. Bound up with the history of the International Society, and a full report of the Detroit, Indianapolis and Chicago conventions, for 50 cents, postpaid.

Good Enough.—Andrews & Lockhart, of Patten's Mills, N. Y., on Oct. 13, 1888, wrote as follows concerning their use of the advertising columns of the AMERICAN BEE JOURNAL :

We got more orders from our advertisement in the AMERICAN BEE JOURNAL than from all the other bee-papers put together. We shall advertise in it again next year.

We Supply Chapman Honey-Plant **SEED** at the following prices : One ounce, 40 cents ; 4 ounces, $1 ; ½ pound, $1.75 ; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

The Date on the wrapper label of your paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to carry the date another year ahead.

Do Not Fail to get up a club and send it with your renewal for next year.

Hastings' Perfection Feeder.—This excellent Feeder will hold 2 quarts, and the letting down of the feed is regulated by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a huudred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2 25
500 Labels	2 00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Melilot or Sweet Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Alfalfa Clover.—For habits and cultivation of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now so CHEAP that no one can afford to do without it.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide the spelling of words, and their meaning.

Do Not Ship Honey to Us without first corresponding with us about it. We have received several undesirable lots without previous notice, or correspondence of any kind.

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lbs., 18@19c.; 2-lbs., 16@17c. Good dark 1-lbs., 15@ 6c.; 2-lbs., 13@14c. Buckwheat 1-lbs., 14@15c; 2-lbs., 12@12½c.—Extracted, 7@9c, depending upon quality and style of package. Receipts increasing, but demand still limited. Stock is not selling as freely this season as a year ago.

BEESWAX.—22c.

Nov. 13. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—It is selling fairly well at 18c. for best 1-lbs. very fancy lots have sold at 20c. Dark and yellow comb sells slowly at 13@16c. Extracted, 7@9c., according to quality and style of package. The stock of best comb honey is light.

BEESWAX,—22c.

Nov. 22. R. A. BURNETT, 161 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 18@20c.; 2-lbs., 16@ 8c. Good dark 1-lbs., 16@18c.; 2-lbs., 15@16c.; fair 1-lbs, 12½@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9@9½c; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.

BEESWAX.—22@23c.

Oct. 25. A. V. BISHOP, 142 W. Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c. 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.

BEESWAX.—23½c.

Sep. 17. THURBER, WHYLAND & CO

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 16@17c.; 2-lbs., 13@14c. Fair white 1-lbs., 14@15c.; 2-lbs., 11 to 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10c. White extracted, 8@9c.; buckwheat, 6@7c. Demand good for white 1-lbs. and buckwheat 1 and 2 lbs., of which the stock is light. Good stock of white 2-lbs., with but little demand.

BEESWAX.—22½@24c.

HILDRETH BROS. & SEGELKEN,

Nov. 24. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@12½c.; 2-lbs., 12@14c.; amber, 8@10c. Extracted, white, 6½@6¾c.; light amber, 6c.; amber and candied, 5¼@5½c. For comb honey the demand is light; for extracted it is good, and market firm.

BEESWAX.—Dull at 18@22c.

Nov. 15. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white 1-lbs., 17@18c. Supply is better. Extracted, 8@9c. Sales slow.

BEESWAX.—22@23c.

Nov. 17. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb. Best white comb honey, 16c. Demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Nov. 12. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.

BEESWAX.—None in market.

Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c; light amber, in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels und ½-barrels, 65c. per gallon.

Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-poundn, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The receipts are very light, and honey sells fairly well.

Nov. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs., 17c.; fair, 14c.; California white 1-lbs., 17c; 2-lbs., 15c. Extracted white California, 7½c.; amber, 7c.

BEESWAX.—None in the market.

Nov. 22. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted in barrels, 5@6c. according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.

BEESWAX.—21c. for prime.

Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6½ cents; light amber, 6@6½c.; amber, 5½c. Comb, white 1-lbs., 13@14c.; 2-lbs., 13c. Light amber 1-lbs., 1 @13c.; 2-lbs., 11@12c. Demand very active for extracted, and fair for comb honey.

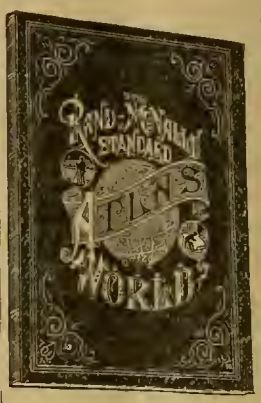
BEESWAX.—20@21c.

Nov. 6. SCHACHT & LEMCKE, 122-124 Davis St.

Advertisements.

A Magnificent Present

For every one who will send us a Club of five *new* subscribers for 1889, before next January. All the remaining issues of this year *free* to new subscribers.



This ATLAS contains large scale Maps of every country and civil division upon the face of the Globe.

It is beautifully illustrated with colored diagrams, that show wealth, debt, civil condition of people, chief productions, manufactures and commerce, religious sects, etc., and a superb line of engravings of much historical interest & value, together with many new and desirable features which are expressly gotten up for this work—among which will be found a concise History of each State.

Price, in best English cloth binding (size, closed 11x14 inches; opened, 22x14 inches), **$4.50.**

☞ To any one sending us, direct to this office, **FIVE NEW Subscribers** for one year, with $5.00, (renewals not to count) we will *present* this beautiful Atlas, by mail, postpaid.

We have purchased one of them for our own use, and regard it as a valuable acquisition to our library. It is handsomely bound and contains a fund of very useful knowledge. It contains **192** pages.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St., - CHICAGO, ILLS.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.

BEES and HONEY,

OR THE

Management of an Apiary for Pleasure and Profit; by

THOMAS G. NEWMAN,
Editor of the American Bee Journal.

It contains 220 profusely illustrated pages is "fully up with the times" in all the improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition. Bound in cloth, $1.00, postpaid.

☞ **A Liberal Discount to Dealers, by the Dozen or Hundred.**

THOS. G. NEWMAN & SON,
923 & 925 West Madison St., CHICAGO, ILL.

THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD.
PUBLISHED BY
THOS. G. NEWMAN & SON,
CHICAGO, ILL.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Dec. 12, 1888. No. 50.

EDITORIAL BUZZINGS.

One Day at a time!
It's a wholesome rhyme!
A good one to live by,
A day at a time.

We have received the first number of the "Queen Breeders' Journal," dated January, 1889. It is to be issued monthly at 50 cents a year, at Marlboro, Mass. It contains 16 pages, and is nicely printed.

Candy for Winter Feeding—Mr. Fulkenson, of Wayne Co., Pa., desires us to give in the AMERICAN BEE JOURNAL a receipt for making candy to feed bees on the top of frames in winter. Here it is:

Use four parts of coffee A sugar, and one part of water; simmer until it becomes quite hard, on being cooled; mould it into frames of one-inch thickness, and lay it on the top of the frames, using sticks underneath ½-inch square, to give the bees free access to it, and the heat of the hive will keep it warm, and soften it.

As the Cold Weather approaches every kind-hearted man who owns a horse will provide his animal with a comfortable blanket, both for stable wear and for covering when hitched out-of-doors. Nor is it a matter of kindness of heart alone, but is really a matter of economy with the owner of the horse. An animal which is kept comfortably blanketed will keep in good condition and come out in the spring in better condition for hard work, on less feed than one that is afforded none but its natural protection. The cost of the blanket will be more than saved in the feed, besides adding to the physical comfort and appearance of the beast.

The Canadians, it seems, are preparing for a monster convention at Brantford next fall, in connection with the meeting of the International there. The *Honey Producer* for December remarks as follows:

The *Canadian Bee Journal* makes a very happy suggestion, and one which reflects much credit upon it, in speaking of the International American Bee-Association meeting at Brantford next year, it says:

"Next year the meeting being in Brantford, we trust that some arrangement may be made to secure a good crowd. Let the Ontario Bee-Keepers' Association and all county societies make it a point to attend in a body....Our suggestions may be premature, but beginning in time is half the battle."

What an excellent idea if all the county associations, and we believe there are seven alone affiliated with the Ontario, besides a number of others—and the Ontario and the Quebec can arrange to meet in a body at Brantford. They alone would have one of the very best conventions ever held; if we add to this the bee-keepers of the United States, and as it is proposed, representatives from several European countries, we shall certainly have the best meeting bee-keepers have ever held, and we can assure the editors of the *Canadian Bee Journal* and all others a most hearty welcome to Brantford.

We should like to see such a convention held, and think that the suggestions are "good and timely." We support the motion enthusiastically.

Revised Langstroth.—On page 814 will be seen the announcement that the new and revised edition of the book of the Rev. L. L. Langstroth will appear next week. It will show the progress of thirty years, and will be very interesting. It is somewhat strange, and certainly a coincidence, that in the year of three 8's (1888) there should appear new editions of *three* of the standard books on apiculture—the other two being by Prof. Cook and Mr. A. I. Root. The revised Langstroth is published by Ch. Dadant & Son, whose long experience in practical apiculture abundantly qualifies them for the work of revision. As soon as the book comes to hand we will give further notice and review. It can be obtained at this office as soon as issued from the press.

To Delinquents.—After January 1, 1889, we shall discontinue sending the AMERICAN BEE JOURNAL to those who have not responded to the bills we sent out a few weeks ago.

This does not mean that we shall try to *deprive any one* of the pleasure of reading the BEE JOURNAL who really desire its continuance, but find it difficult to pay now. Such can get a short extension of time by asking for it. We should be sorry to lose any subscriber who wishes to have its weekly visits continued, but do not want any to continue to take it who do not think they are getting the full worth of their money.

We hope each one will endeavor to send us one or more new subscribers when they renew. We want at least ten thousand subscribers for 1889.

Maryland, My Maryland.—John B. Reed, Owing's Mills, Md., on Dec. 3, 1888, writes us as follows concerning an article on page 756, on the institution of a Bee-Keepers' Society in Maryland:

I lately met with a correspondent of the AMERICAN BEE JOURNAL who was very enthusiastic about the organization of a bee-keepers' association for Maryland. He showed me an article that he wrote on that subject, which I think is very good; but I do not think there has been enough of bee-literature distributed in our State to start one very soon. If you would make an appeal to some of our large bee-keepers, and some of the neighboring States would lend a helping hand, we might in time organize such a body; if only very small at first it would very likely increase. There are a good many who would keep bees if they had some one to attend to them. If there were men going about doing such work that were endorsed by some association, it would increase the number of apiarists. Do you not think that it would be well to agitate this matter?

Will the bee-keepers in the surrounding country correspond with Mr. Reed, so that there may be a good working society instituted in Maryland, as we suggested in an editorial on page 756? It requires some one to lead, and considerable energy to get the bee-keepers together, and then the thing can easily be done. Enough enthusiasm can be kindled at such a meeting to make a society a success. We repeat what we before said: Act quickly! Strike out for success! Be enthusiastic! These are the watch-words which bring success, everytime.

Indian Summer seems to have "slipped a cog" this year. The beautiful weather which usually comes in October, and which we are wont to call "Indian summer," arrived this year about the middle of November, and is still here. In fact we can truthfully say that though not quite as warm, still "December is as pleasant as May," in all that makes it enjoyable. Our friends in the country have good roads, and with bracing atmosphere, clear skies, and a lack of snow in the West, the season is delightful. In the East they are having lots of snow, and storms have been too plenty, while no snow is the rule all through the West.

The Michigan Bee-Keepers meet in convention on Wednesday (the date of this paper), and hold a two-days session. This is the 23rd annual convention of this State Association. It is one of the oldest and best societies of bee-keepers in America, and this meeting will no doubt be a very interesting one. We shall have a report of the proceedings in due time.

In Australia there is a great complaint of drouth, which seems to have extended all over that continent, New Zealand and the islands adjacent. It is much of the same state of affairs as existed in North America in 1887, the results of which are yet being felt quite extensively.

GLEANINGS OF NEWS.

World's Congress of Bee-Keepers.—The idea grows, day by day. Mr. J. W. Tefft now gets enthusiastic, and says that the coming meeting at Brantford, Ont., should be a World's Congress of bee-keepers; that it should select as a permanent location Niagara Falls for holding its sessions. He asks to have the following "Notice" submitted for the consideration of bee-keepers, and a prophecy of the future:

The World's Congress of bee-keepers will hold its first council at Brantford, Ont. Now is the time for local conventions to elect delegates, etc., giving four days of high thinking in apiculture. Bee-keepers of culture and of earnest thought should not fail to attend the sessions of the World's Bee-Keepers' Congress, to be held at Brantford, Ontario, Canada, on —— date —— Tuesday, Wednesday, Thursday and Friday, ——, 1889.

The old reliable AMERICAN BEE JOURNAL has already dwelt upon the character and purposes of this Congress. It is simply a gathering for the liberal discussion of what is best in bee-culture for men and women; and also for finding out in which direction true progress lies; in what measures the greatest good will result. The Congress seeks to be simply a little advance guard of bee-keeping civilization, blazing away for general advance.

We apprehend a marked effort at the coming Congress of bee-keepers to be practical. To point out some steps which may actually be taken, and what practical good may follow. Messrs. Allen Pringle and L. C. Root are expected to share in the discussions, as they are conspicuous among the educators, as exponents.

Dr. A. Stanley Hancock, of Buffalo, N. Y., will give his experience in reversible frames, all-purpose bee-hives, ventilation, etc.

Thomas G. Newman will probably indicate in a measure the character and purposes of the four days' celebration.

Dr. Tinker on the new sections open on all sides.

The question of the race and type of bees, by Prof. A. J. Cook.

Tobacco, humbugs, and scientific bee-keeping by A. I. Root.

A welcome address by R. F. Holtermann is sure to be earnest and suggestive.

We submit the above by request, but it is too early yet to get up a programme for the Congress.

We are glad to notice the general waking-up to the importance of having a good convention, and hail with delight the indications of a monster meeting, which shall be noted for the sacrificing of selfish motives and designs, and for the unanimity of those present—all working for the general good—while making plans for the advancement and prosperity of the pursuit. That is a hopeful sign—a good omen!

Money in Potatoes, by Mr. Joseph Greiner. Price, 25 cents, postpaid. This is a complete instructor for the practical potato-grower, and explains the author's new system in 40 interesting lessons. It is for sale at this office.

Odor and Color.—On page 776 Mrs. Chaddock avers that she knows that "*odor* is a guide to bees" in search of honey. This was in reply to Prof. Cook, who claims that "the *color* of flowers" was the attraction to the bees. Now, in *Gleanings* for December, on page 926, Prof. Cook makes these additional remarks on the subject:

Do you remember what ludicrous blunders Agassiz made when he attempted to write of bees? He was a master in science, yet the humblest bee-keeper in the land could have taught even Agassiz very much.

The point I wish to make is: If we wish to learn of bees and their work, we go to a bee-man; so when we wish to learn as to the nature, growth, development, and general economy of plants, we will, if wise, go to a first-class botanist. W. E. Gladstone is a marvelous man, but I would give a thousand times as much for Dr. Beal's opinion on an intricate matter connected with plants as I would for Gladstone's.

Now for my point: All our bontanists believe that odor and color in flowers are developed peculiarities. They have been evolved for the good of the plant. The method by which they aid the plants is by attracting insects. We positively know that insects by cross-fertilizing the flowers of the same species do immense good to the plants. This often changes sterility to maximum productiveness, and almost always increases the productiveness many fold. Of course, as bees are so much more numerous in early spring than any and all other sweet-loving insects, they are the chief agents in this good work.

We may say, then, that the rich coloration and penetrating odors of flowers are their distress signals. Bees see the colors or smell the odors, and so are attracted, to the mutual benefit of both parties. We see, then, why many showy flowers, like cardinal bloom, and the Rocky Mountain or Colorado cleome attract bees and other insects without odor. Other inconspicuous flowers, like mignonette, are very fragrant, and so attract insects by scent, not gaudy coloration. Still others, like the phlox, are both showy and fragrant.

Again, are not our bees governed by reason? It is sometimes said, that bees are wholly ruled by instinct. I do not think so. A red clover field is rich in clover, and delightful with fragrance. Yet the honey-bee generally passes it by. A less fragrant and more feebly adorned white clover field at the same time rings with the hum of bees. Why the difference? The bees have learned by experience that they receive no benefit from red clover. Indeed, the very fact that they are attracted by color argues that they are reasoning from former experience. Bees are, in a sense, botanists.

A Good Christmas Present for an apiarian friend or relative would be one of the *new* books on apiculture, or even a year's subscription to the AMERICAN BEE JOURNAL. See list of books on page 815 of this issue, and select what you desire. If sent for at once, there will be plenty of time to get either the book or subscription receipt in time for Christmas.

Now is the time to sell the honey. The holidays are at hand, and the best prices rule about that time.

Well did Pythagoras put it when he said, "Rest satisfied with doing well, and leave others to talk of you as they please."

Button-Ball Honey.—Mr. S. A. Shuck, of Liverpool, Ills., gives the following particulars concerning this honey-producer, in *Gleanings*:

There are thousands of acres of it in the marshes of this, the Illinois river bottom. I have lived in this place five years, but we got no button-ball honey until last season. It bloomed about three weeks, and gave us (wife, children and I) something over a ton from this source.

This season it bloomed six weeks, and we have taken off the hives about 2,000 pounds, all button-ball honey. There is about a ton on the hives, and the greater part of that is button-ball.

The cause of its failure in previous years was ice breaking it down during the winter; and its continuing so long in bloom this season was caused by the water. When it commenced to bloom it was standing in water up to its "chin." The water commenced going down; and as the water continued to fall, new shoots put forth, and new buds kept coming, so that there was considerable button-ball bloom yet last week.

We obtained nearly three tons of honey last season from 98 colonies in the spring, and went into winter quarters with 114 colonies. We commenced last spring with about 108 colonies; and while we have not a big crop, we have a fair yield. Our neighbors got almost nothing last season, and a little less so far this season.

Among the ancient "Irish Signs and Omens" enumerated by an exchange, we notice the following as directions or enchantments to attract wild bees:

Gather fox-glove, raspberry leaves, wild marjoram, mint, camomile, and valerian, mix with butter made on Monday, on which day the herbs should also be gathered. Boil with honey, and rub the vessel into which the bees should go, with the mixture. Place it in a tree, and the bees will come.

In our day they sound very strange among matter-of-fact people.

☞ **The National Bee-Keepers' Union** fiscal year has heretofore ended on June 30. Sometime since it was proposed to have it end with the calendar year. It was submitted to vote, and every vote, so far received, is in *favor* of the change, except one which suggests that "January is always settlement month, and funds scarce." As the dues are not delinquent for six months, that objection is nullified. The change is therefore declared carried by consent.

This change will make the time for paying dues and voting for officers come on Jan. 1, and blanks will be sent out on Dec. 15, for that object.

To Our Subscribers.—Send to F. P. Shumway, Jr., Boston, Mass., for a *free* sample copy of the *Cottage Hearth*, a beautiful illustrated magazine, and so realize what an EXTRAORDINARY OFFER we are making when we propose to send both the *Cottage Hearth* and the AMERICAN BEE JOURNAL for a full year for only $1.50, when the price of the *Cottage Hearth* alone is $1.50 a year, thus giving you two standard publications at the price of one.

DREARY WINTER.

Alas! all flowerless are the vales;
We feel the breath of Arctic gales.

All silent are the honey-bees,
And gaunt and leafless are the trees.

The daisies to the zephyrs nod
No more—dead is the golden-rod.

No fire-flies in the alders gleam;
No more the swallows skim the stream.

The grass is withered on the lawn;
No more the song-bird greets the dawn.

The merry crickets chirp no more;
The weather-strips are on the door.

Now come bleak winds with drizzling showers,
And 'neath the eaves the sparrow cowers.

The glory of the autumn's past,
And dreary winter's coming fast.

The dreary winter with its snow,
And days of "eight and ten below."

QUERIES AND REPLIES.

Placing the Section-Case for Comb Honey.

Written for the American Bee Journal

Query 596.—When comb honey is desired, can any more honey be obtained by placing the section-case crosswise over the frames, than by using it lengthwise; that is, running with the frames, or from front to rear?—New York.

No.—C. C. MILLER.

No.—MRS. L. HARRISON.

I think not.—J. M. HAMBAUGH.

I think not.—M. MAHIN.

No, certainly not.—R. L. TAYLOR.

No. No more, and no less.—EUGENE SECOR.

No. What kind of a hive do you have?—WILL M. BARNUM.

No; and there are serious objections to such a practice.—JAMES HEDDON.

I can see no difference in favor of either plan.—G. M. DOOLITTLE.

We do not think that it makes any difference as to quantity.—DADANT & SON.

Having never tried them crosswise, I do not know.—A. B. MASON.

I prefer them to run crosswise, but practically I do not think it makes any difference.—J. P. H. BROWN.

I think not. I have them both ways, and I see no difference in the amount of honey secured.—A. J. COOK.

I do not think that there can be, and I see no good reason why it should.—J. E. POND.

I can see no difference as far as honey is concerned. I prefer the sections to run with the frames.—H. D. CUTTING.

No, *never*. Besides it is wrong anyway. Run sections the same as the frames, and the hive need be level or true one way. Run the sections crosswise, and the hive must be level *both* ways. Double trouble without a single advantage.—J. M. SHUCK.

I do not think that it makes much difference, but putting the sections lengthwise is generally preferred.—P. L. VIALLON.

It makes no difference, but as hives are generally tilted forward to shed water, it is best to place the sections running from front to rear. The hives must be kept plumb sidewise, when comb either in brood-frames or sections is being built.—C. H. DIBBERN.

I have used cases largely in both ways, and as to quantity of honey I have failed to see any difference in favor of either way. I make my cases so that the sections run with the brood-frames, in order that the hives may be "tipped" forward slightly so as to drain the alighting-board of any water that may get there.—G. W. DEMAREE.

Oh, no! No good reason is presented why it should make any difference in the quantity of honey obtained, so far as we can discover. There are reasons for having the combs parallel with the brood-frames, other than a quantity of honey.—THE EDITOR.

Separate Section-Cases, or Wide Frames?

Written for the American Bee Journal

Query 597.—Can more honey be obtained by using separate cases (that is, those with sections) than by using wide frames with sections?—E.

No, I think not.—R. L. TAYLOR.

No more honey, but less work.—C. C. MILLER.

I never use wide frames. Place all sections in cases.—J. P. H. BROWN.

I think not, but it is more convenient to use separate cases.—A. B. MASON.

Not according to my experience.—P. L. VIALLON.

I think so, and in better shape usually.—MRS. L. HARRISON.

There is no difference as to quantity; it is only a matter of convenience to the bee-keeper.—C. H. DIBBERN.

I have never made a practical test, but I believe the difference would not be very marked.—J. M. HAMBAUGH.

The wide-frame plan will give as much honey as any plan so far known.—G. M. DOOLITTLE.

I do not know as I understand your question fairly. But I am satisfied that I can get more honey with the section-case than with wide frames.—WILL M. BARNUM.

I see no reason why. It is simply for convenience that we use crates or cases, in lieu of wide frames.—A. J. COOK.

It depends upon circumstances. There are advocates of both plans. Probably but little difference will be found.—J. E. POND.

I use separate cases, also sections in wide frames, and I can see no difference with the same race of bees and colonies of the same strength.—H. D. CUTTING.

One plan will secure just as much honey as the other, other things being equal. It is altogether a question of cheapness and convenience. I began with wide frames, but I have discarded them.—M. MAHIN.

Perhaps not, but the latter method would involve the most work, I think. In a large apiary the question is not simply quantity, but maximum quantity with minimum labor.—EUGENE SECOR.

Cases for surplus honey of half-depth offer advantages that those of full-depth do not; for the reason that a small amount of storage-room is offered at one time, and heat is economized. The "case" system has almost superseded the wide-frame system, and will eventually "push it to the wall." Very much of this popularity is due to the old Heddon case.—J. M. SHUCK.

I have tried both the wide-frame and the case system, and I conclude that if the apiarist is possessed of genius, and is indifferent to what is by some people called "fuss" in the bee-business, there need be but little difference in the quantity of comb honey realized. But for my part I am not fond enough of "fuss" to be found fussing with such impracticable traps as wide frames.—G. W. DEMAREE.

In all probability the difference in quantity is very little, if any. Convenience and economy of labor and material are the only things which are claimed for section-cases for surplus honey, which are now superseding the wide frames very rapidly. — THE EDITOR.

The Time for Reading has come, with the long winter evenings. We have a large stock of bee-books, and would like to fill orders for them. To read and post up is the way to succeed in any pursuit—in none is it more important than in bee-keeping.

☞ The annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in the Supervisors Room of the Court House at Rockford, Ills., on Jan. 15 and 16, 1889. D. A. FULLER, *Sec.*

CORRESPONDENCE.

REMINISCENCES.

A Record of a Woman's Work Among the Bees.

Written for the American Bee Journal

BY S. B. ATWATER.

The season has been a disastrous one to me. There was one continual drouth from the beginning to the end of the season. I kept my bees alive by feeding honey.

Death of Mrs. S. B. Atwater.

But on Dec. 12, 1887, my dear wife passed to the "summer land." As a consequence of this death in the family, the bees also died.

If it were known how many years I have been reading the AMERICAN BEE JOURNAL, the reader would no doubt exclaim, "Can any man read modern bee-culture to so little purpose, that that old superstition still clings to him?" I have read modern bee-culture quite extensively, and still what I have said I believe to be true. My wife also had studied the books, and read the papers until she became well versed in what is known of the nature and habits of the honey-bee, and an adept in the management of an apiary.

We worked our apiary at first altogether for extracted honey; and in building up by dividing, by forming nuclei and other methods of increasing the original stock, she had considerable experience. In this work she often made discoveries by her observations, and came to conclusions that months afterwards, and sometime years afterward, she saw confirmed by the observations of others, and recorded in the bee books and papers.

Bees Devouring their Eggs.

One of these observations I recall now, made several years ago. She had strengthened a nucleus by giving it frames of brood from a strong colony. When these frames were put in, she noticed one frame filled with eggs that were not hatched. In two days afterward the cells in this frame were empty—the bees had evidently devoured the eggs. The same was noticed every time that eggs were put into the hives where there were but few bees, and those bees young.

On another occasion after we had divided some strong colonies, leaving about the same quantity of bees and brood in each of the two hives, she noticed that but few bees were flying the next day in front of the hives that had been moved to a new location. On noticing these bees closely, she saw that they would walk out of the entrance a little way on the alighting-board, and then return to the hive without taking wing. She came to the conclusion that the old bees—the honey-gatherers and water-carriers that had been once in these hives—had flown out in the early morning, and when they had obtained their loads, had gone back to the hive on the old stand instead of coming back to the new place; and that the bees in the hives on the new stands were all young bees, and not old enough to fly. She sprinkled some water on the edge of the alighting-board, and was delighted to see how eagerly the young bees crowded out and drank it.

In a few days, as she watched these hives, she saw that the young bees were beginning to fly, and hunt new watering-places. And then again, when she had the good fortune to catch a stray swarm, that had struck out to find a new habitation, and had it nicely hived, she thought it was not *one* new colony that we then most wanted, but two or three. So she lifted two or three frames from the newly-hived swarm with their clusters of bees, and put them in a new hive with plenty of frames of brood from hives that could well spare them in June; and two or three more frames were lifted from the hive containing the new swarm, and placed in still another hive, which was filled up by frames of brood drawn from strong colonies. These hives were each placed in a new location, and as the division was made before the newly-hived swarm had had time to mark its location, each part staid with the brood that was given it.

In this experiment there was no complaint about the bees eating fresh eggs in comb that was put in the hive, nor was there any necessity for sprinkling water on the alighting-board for the young bees to carry in. This division of the new swarm was so satisfactory, that in after years, when we desired to increase, we waited for a natural swarm and then divided it according to its strength.

These and many other things she discovered which afterward she saw confirmed by the writings of others. Some experiments that she tried in the management of bees did not work out as well as she expected they would, but even in failures there were lessons that were learned. In trying different plans of management, she found which were the best. As an illustration, she put the extra story of empty comb below the bees instead of above, as is usual, but the experiment was not a success.

Those colonies which had their extra stories of empty comb placed above them gathered more honey than those did whose condition was reversed. I have written this much to show that my wife was a thinker and an experimenter. She had read that it is natural for bees to store honey over their brood, and she believed it after she had tried to make them store it below.

Bee-Stings and Smoke.

I cannot tell you all the discoveries she made in one short letter, but I will relate one more: She noticed that sometimes when we pinched a bee and induced it to resent the provocation by a sting, that other bees would be excited by the scent given out by the stinging bee; and perhaps a half dozen other bees, that up to that moment had been well-behaved, would instantly take the warpath and rush right to the spot already stung, and do their best to sting it some more. At such times she used the smoker, turning on a blast of smoke to take away the scent of the bee-sting. It was but a short time till she discovered that smoke was an antidote for the poison of the bee-sting.

We have tried many things, but nothing gives so much relief as smoke blown from the bee-smoker for a few moments on the place stung. This fact has been mentioned in the BEE JOURNAL, but for the benefit of new subscribers it ought to be repeated every three months. Those who try the experiment for the first time will soon learn to lose as little time as possible after being stung, before beginning to puff the smoke on the sting. I never saw any man who could do as much work, and do it as intelligently in handling bees, as my wife could.

The Philosophy.

I will now return to the philosophy—not the superstition—that connects the death of my wife with the death of the bees the same winter. She and I had always worked together in preparing our bees for winter. My wife was taken sick just about the time we expected to go to work to prepare the bees for winter, and she was not able to help. My whole time and thoughts were engrossed in caring for my wife. The bees were neglected, and stood out through the rigorous winter without any packing. They are dead now, but there would have been but little profit in them this summer had they lived. The white clover was killed by the drouth one year ago. It came up from the seed, and if we have a good winter, this will be a good location for bees next year.

Viola, Ills.

PEACHES.

Sound Fruit is Never Attacked by the Bees.

Written for the Farm Life.

The matter has come up a great many times in regard to bees and peaches, and perhaps more this present season than heretofore. A few days ago a neighbor told me that our bees had taken complete possession of his peach orchard. They were "cleaning the fruit right off the trees, and would not let anybody go near the trees." I told him they were eating the decayed peaches, and no others. He would not believe me until I took him down to our fruit-house and showed him several baskets of sweet cling-stone peaches. These sweet cling-stones are the first that ripen, and this year they began rotting, a great part of them, before they got mellow enough to eat. I have taken considerable time and pains to look into the whole matter, and I think I understand it.

I bought of a neighbor about two bushels of these peaches, and I immediately sorted out all decayed and mellow ones. Before I got through, the bees were busy on the decayed ones, and where the skin was bruised they rapidly enlarged the opening and soon finished the peach. For two or three hours not a bee was to be found on those that had been sorted out as perfect. By noon, however, knots of bees were gathered in different parts of almost every basket.

I sorted them again, and found little white spots, indicating that rot had commenced since I went over them in the morning, and whenever the bees found these indications that decay had commenced on a small spot, they pushed their tongues into it, and rapidly made the opening larger. I then placed a part of the peaches indoors, where the bees could not get at them. In about three hours' time, as before, quite a number of the peaches showed decayed spots. Some had commenced to get mellow, but the greater part of them commenced to rot before getting mellow at all.

Well, wherever they were left out-of-doors the bees found out what was going on, and kept going over the peaches, waiting for a soft spot to appear. Before these soft spots appeared, a whitish down always indicated where rot was going to commence. The appearance was something like mildew.

Good peaches, however, that became mellow before this rotting commenced, were never attacked or injured by the bees at all. If, after the peaches get mellow, they are tumbled around in the baskets so as to bruise the skin, they will be attacked by the bees. They will also, within 24 hours, as a rule, commence to decay if the bees do not get at them.

Now, friends, I think you have the truth of the whole matter. The bees do not injure sound peaches. They will, however, get through the skin at once when this process of decay commences, and it will start out through the basket of peaches in just a few hours—that is, if you sort out every decayed peach, and every one that shows any symptoms of decay, at nine o'clock in the morning, during hot, rainy weather, by noon you will find a good many that have commenced to rot—enough so that the bees will get at them. In a few hours more, the peach will sometimes be too rotten for sale or use.

Now, I do not know whether this kind of rot always occurs with these sweet cling-stones or not. I have noticed it several seasons, but I never saw it so bad as this season. It commences when the peach is nearly ripe, and it may attack fruit before it is mellow, or after it is mellow, or not at all. It is not the same kind of rot that spoils fruit when it rots from over-ripeness. If you get a remedy for the rot, you will also have a remedy for the bees; and this kind of rot is certainly a very serious matter to fruit-growers.

Now, then, there is one other trouble: When your fruit gets bruised so as to break the skin, the bees will rapidly take out the inside. People who handle fruit, however, greatly magnify the effects; and my neighbor was greatly surprised to see me pick out peaches and push the bees away with my finger, in order to show him the white mold which is the forerunner, or harbinger, of the rot on every peach where the bees had found an opening. He could hardly believe me when I told him they did not chase his people out of the orchard.

Now, I wish the whole matter might be fully understood, and I wish our agricultural papers would copy the facts I have here given. There is some trouble with bees and fruit, I am well aware; but the trouble is not so great as fruit-men often imagine; and I am sure it will be very much less expense to arrange the damages in an amicable way, rather than to attempt to right the matter by going to law.

Let the bee-keeper and the fruit-raiser both look into the matter, and talk it over in a friendly way. I proposed gathering the fruit, or paying the damages; but my neighbor finally declared that there were not sound peaches enough there in the first place to be worth talking about. He knew many of them were rotting, even before they were ripe; but he did not know the bees were at work on the trees, only on those that had begun to rot.

Another thing: The bees would pay no attention to these peaches, even the sweet ones, were it a season when honey could be found in the fields. With us, however, the bees seldom find honey enough to keep them busy at the time when peaches begin to ripen.

October, 1888.

[When the whole facts are known, the bees will be fully exonerated from the charge of attacking sound fruit, as is so well demonstrated in the foregoing article from that excellent agricultural periodical called the *Farm Life*, published at Rochester, N. Y.—Ed.]

UNITING.

Use of Chloroform in Handling Bees.

Written for the American Bee Journal

BY C. E. WOODWARD.

On page 742 some one asks if any ill-effects would follow the use of chloroform in quieting bees, or introducing queens. As I have never seen any method for its use in the apiary, from our leading apiarists, I will give the method I use for uniting colonies and introducing queens.

In the first place, we must take into consideration the powerful liquid we are to use. Chloroform is a colorless, volatile liquid, and is very powerful for man or beast, and should not be allowed in the hands of any child.

Get the chloroform and three sponges, and saturate one of the sponges with the liquid; dampen a sponge with water, and put the sponge into the bee-smoker; then put in the sponge saturated with the chloroform, and then put in the third sponge. Be sure that you have the sponge saturated with the chloroform between the two sponges dampened with water. This will hold the strength of the chloroform.

Wet a cloth with water and cover over the frames of the hive that is to be manipulated, and cover the hive up again. Now take the smoker and give the bees two puffs of the chloroform. Then go to the next hive and operate on it as before. If you are uniting bees, then go back to the first hive and give them two puffs more. By this time the bees will be "silly,"

and the queens may be allowed to run in, and all will be right.

The bees may also be united with perfect satisfaction, and without loss. No consumption of honey is needed, no sweet solution is wanted, and the perfumes of eremated wood is uncalled for. The time is fast approaching when the old 48-hour-method will become obsolete.

South Newbury, Ohio.

HONEY-BEES.

Apicultural Literature and Facts About Bees.

Written for the American Bee Journal

BY HENRY K. STALEY.

Among the bees still holds good that law of the stronger preying upon the weaker. The thought rendered in poetry is as follows :

Big fleas have little fleas to bite 'em.
And little fleas have lesser fleas, *ad infinitum.*

So, when we look into the animal kingdom on this nether world, we find the lion preying upon the jackal, the wolf upon the lamb, etc. ; but, of course, there are exceptions to the general rule.

The Robbers Among the Bees.

The bee in its formation, life and idiosyncrasies is a good deal like man, as I mentioned on page 792. That is, in a case of continuous drouth, and when honey-bearing plants cease to pour forth their nectar, the bee, like man when he is out of employment and becomes down-hearted, will often resort to robbing. But this robbing may be easily remedied, by so changing the hives, that, the robbers instead of bringing honey to their own hive, will be taking it from their own alveary to the other. This will often neutralize the affair, but sometimes it will not. Then you had better try the odor plan (*i. e.*) putting one kind of odor (as peppermint) in one hive, and another kind (as musk) in the other ; and, then, the bees of the various hives being able to distinguish themselves from one another, you will soon see the truth in that old saying, "*Uber dem Sturme ist Ruhe*"—After the tempest is sunshine.

No one who has not seen this wholesale robbing among bees, can hardly comprehend how the little scalawags dart through the air from one hive to the other, the robbers bearing home their little load of pilfered sweets, shaking themselves at the entrance of their own hive to inform their co-laborers, when the air is soon filled with a maddened, angry swarm of bees, ready to sting the first person that comes in sight, on the least provocatian, while over the alighting-board of the robber hive may be seen the pilferers falling thick and fast.

Virgil's description of a *pugna* between two colonies of bees, applies very well to this robbing incident. It is as follows :

"As soon, therefore, as they find the spring serene, and the fields of air open, forth they rush from their gates; they join battle : buzzing sounds arise in the sky aloft : mingled they cluster in a mighty round, and fall headlong : hail rains not thicker from the air, nor such quantities of acorns from the shaken oak. The kings themselves admit the hosts, distinguished by their wings, exert mighty souls in little bodies, obstinately determined not to yield till the dread victor has compelled either these or those to turn their backs in flight. These commotions of their minds, and this so mighty fray, checked by the throw of a little dust will cease."

The above, of course, is the embellished language of the poet, and adorned by his imagination to look plausible to the illiterate ; but in practicable experience he will find the difficulties are greater than he expected. We may exclaim with Bobbie Burns, when bees are on the pilfering rampage, and

Bizz out wi 'angry fyke, (hustle)
When plundering herds assail their byke (hive),

that for the nonce, it is enough for a literate apiarist to manage them, let alone an illiterate one.

For 21 days of its life (the worker-bee)—16 days for the queen, and 24 for the drone—it lives what may be termed an aquatic life ; and from the hatching of the egg it passes through great changes, until it finally emerges from the cell a perfect bee, when its life may be said to be that of the aerial type ; for then, it soon acquires the power to use its wings, feet and other organs.

It devotes about the first ten days of its aerial life to cleaning cells—preparatory to receive the eggs or honey—or taking care of bees just emerging, etc., like children learn to perform the work in a cuisine and household duties.

At 12 or 14 days of age the bee commences to labor in the fields, and passes its prime at about six weeks in the working season, when mild—or it may be only 30 days, during a strong honey-flow—when it steadily begins to go into decline. So, like us, it is only a few short days from the time they had their first after-birth frolic, when

Sporting with quick glance,
Show to the sun their waved coats dropt with gold,

to the time when, with torn wings and haggard limbs, they wearily draw themselves away from the busy swarm of population, to some remote place to die in. Hence when the peculiarities of the bee are brought *vis-a-vis* with the peculiarities of the human race, does it not seem that we are very closely allied to the family of the *Apis Mellifica* ?

Ataxy, when the hive is in a healthy condition, finds no place among the bees. Everything must be in apple-pie order. If there are some that get mad, and trow they will do what they please *sans souci*, they are soon ousted out or treated to a reprimand. One thing very queer about them is, the the utter *nonchalance* they have for infirm members of their family.

It is a well known fact, that some people who are too lazy to work in the winter-time, through their influence with the trustee in their township, get a permit to enter the county infirmary palming off valetudinarianism on him Of course, with this permit, they gain an entranee into the infirmary, and feast there, through the winter at the expense of the county, leaving again

When that Aprille with his schowers swoote
The dronght of Marche has perced to the roote,

to seek employment. We find no such thing in the bee-hive, because they believe in the adage that says, he who does not labor shall not eat.

Those bees that are sick, bruised, or in some way rendered infirm, are hustled out and thrown overboard. This resembles the way Sparta did with her infirm children. Every newly-born babe was taken, according to the Law of Lycurgus, before a committee of aged men, who gave the decision upon his right to live. If puny or sickly, into a ravine they slung him to die ; but, if he seemed likely to be strong, he was accepted as one of the sons of Sparta, and had one nine-thousandth part of the public lands given to him.

So also with the bees, they allow no cripples among them, and will even tear down an inchoate queen if one of her limbs is in some way injured. They have no time to bother with the infirm ; life is too short, and the honey-flow too uncertain and pusillanimous to be bothered with them. Like the Spartans of old at the pass of Thermopylæ, they have a mighty work to accompish with small numbers, and in a short time ; and, therefore, they have no time to bother with the infirm when the honey-flow is thundering rapidly pass their threshold.

The type of a man's life for nine months is aquatic, and during that interval of time he assumes many different but correlated forms ; and is it not so with the bee ? The egg hatches, and the larva grows, in what may be termed a *parvum fretum* (little sea) of

liquid food, which it gradually, through many distinct forms, uses up, going through the various forms of larva, pupa (where it spins its cocoon, which serves as a velvet bed for its immature body to bounce about in, and also to guard against jars, as well as apicultural eruptions indulged in by illiterate bee-men), to the imago state where it assumes the real form of the bee. During this time—*mirabile dictu*—the pabulum in the cell seems to change directly into the body of the bee, and if any offal escapes, it must be in the form of gaseous vapors.

At the birth of a child his life becomes aerial; he soon, through nourishment from his mother's bosom, acquires the power to use his limbs with energy; to expand his lungs with the atmospheric air, and squall, and many other doings I need *not mention* to those blest with little children. How wonderfully similar to the bee in its peculiarities is man! No wonder that great poet, Green, wrote this lovely little passage:

To the mind's ear, and inward silence,
There silence speaks, and shade gives light:
While insects from the threshold preach,
And minds disposed to musing teach;

Proud of strong limbs and painted hues,
They perish by the slightest bruise;
Or maladies begun within
Destroy more slow life's frail machine:

From maggot-youth thro' change of state,
They feel like us, the turns of fate.
Some born to creep have lived to fly,
And changed earth's cells for dwellings high;

And some that did their six wings keep,
Before they died, been forced to creep.
They politics, like ours, profess;
The greater prey upon the less.

Some strain on foot huge loads to bring,
Some toil incessant on the wing;
Nor from their vigorous schemes desist
Till death; and then they are never mist.

Some frolic, toil, marry, increase,
Are sick and well, have war and peace;
And broke with age in half a day,
Yield to successors, and away.

Yes, truly, Green saw and understood the bee in the way the poet, Gray, meant the following lines, thus:

To contemplation's sober eye
Such is the race of man.

The quotation from Green's "Grotto," I consider one of the gems of bee-literature, worthy of being learned by every bee-loving person, notwithstanding the apicultural effusions of Shakespeare, or the embellished sayings in Virgil's Fourth Georgics, to the contrary; for where in all the realm of bee-literature will you find a poem containing so great a maximum of thought in so small a number of words, which at the same time may be construed to apply to the human race so minutely?

Are we not proud of brawny arms and sparkling eyes, rubicund cheeks and dainty hands? Yet, is not a slight cut or bruise able to produce *tetenus*, when Death, with his reaping scythe, claims us as his own? Although many are the panaceas that have been recommended and tried to cure consumption, it, like foul brood, may emanate from the mother, so that no remedy may be able to cure it. If the parents are consumptive, we know that the child may, in all probability, be made the possessor of what may be termed hereditary consumption; and we know also, that a healthy person without the slightest blemish of hereditary consumption, may contract that awful disease through the neglect of a cold.

So also there is hereditary foul brood, emanating from the queen-bee, the germs of which are supposed to exist in the eggs themselves, and also the foul brood that grasps a healthy colony being conveyed to it by bees from other infected colonies; or the germs may be wafted through the air, or it is supposed that the bacilli may exist in the newly-gathered pollen, and thus find its way into the rank and file of the bee-hive.

The following lines of Pope, in his "Essay on Man," seem to apply directly to hereditary consumption in man, and may be construed to apply to hereditary foul brood in bees, thus:

As man perhaps, the moment of his breath,
Receives the lurking principle of death;
The young disease, that must subdue at length,
Grows with his growth, and strengthens with his strength.

Returning to Green's sayings, we can easily construe the distich,

Some born to creep, have lived to fly,
And chang'd earth's cells for dwellings high,

to apply to man. Yes, some men who were born in penury, like Lincoln, Grant and Garfield, changed their humble abodes for dwellings high, ascending step by step to the top of the ladder of Renown, until at its summit they stood environed with the Nimbus of fame, and the Aureola of glory; while some, born with "silver spoons in their mouth," before they died have been forced to beg from door to door. Nor do we from our vigorous schemes desist till death, and then we are missed very little, for the world still gyrates on its axis, our orb still circles round the sun, seed-time and harvest come and go, and the busy populations of the earth still fill up the combs of prosperity with the rich productions of our globe, while we go into oblivion and glide down the river of Forgetfulness. Truly our "life is but a sheet of paper white, where on each one may write his word or two, and then comes night;" or we can exclaim with Gray:

Poor moralist! and what are thou?
A solitary fly!
Thy joys no glittering female meets,
No hive hast thou of hoarded sweets,

No painted plumage to display;
On hasty wings thy youth is flown;
Thy sun is set, thy spring is gone—
We frolic while 'tis May.

Pleasant Ridge, Ohio.

NECTAR.

Honey is Not Made, but Gathered from Flowers.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

In an old book that my father used to read from as I stood by his knee, are these words: "My son, eat thou honey, because it is good." Yes, indeed, "it is good;" not only for the young, but the old, decrepit, and middle-aged. It gives warmth to the system, arouses nervous energy, and gives vigor to the vital functions.

After the closing of the North American Bee-Keepers' Convention during the fall of 1880, a number of bee-keepers, myself among the number, called at the home of General Withers. We walked through and admired that beautiful palace, with its many stained windows, perfect ventilation, and hard-finished interior, furnished with every convenience, for the comfort and health of the horses, which were to be its inmates. In the course of conversation this genial gentleman said the horses had paid for their home, and among other things, that his father, who lived to be a very old man, always ate a little honey every day.

People have said to me: "I thought honey was all the same; that bees made it, and you bee-keepers call it basswood, clover honey, etc." It is true, that all that the bees collect and store in their combs is honey, whether it is the product of the leaves or bark of trees, honey-dew or sweet juice oozing from corn-stalks, wheat-stubble, or distilled in the corollas of beautiful flowers.

Bee-masters now endeavor to keep the different kinds of honey as distinct as possible, and they do it in this way: All the honey gathered in the North and the West, up to the time of the blooming of white clover, is used in brood-rearing. There may be exceptions to this, in the vicinity of large apple orchards, but in this locality there are but few trees, and what there are, are crab apples.

During some seasons, very large colonies, at near the close of fruit-bloom, will have their combs built out white with new wax, and the bees rich in wax, so much so that the scales are visible with the naked eye, and occasionally a swarm issues. These are the right conditions for colonies to be in when surplus boxes are to be put on; but instead of putting them on we remove two or three frames of brood and honey, as the circumstances may favor, and fill their places with empty comb.

I do this because I know that honey from this source is of short duration, and it is better to remove this brood and honey, and give it to weak colonies, so that they may all be strong, at the advent of white clover.

Apple honey is dark, but has a rose flavor which is agreeable, but bees are not strong enough when it blooms, to store any amount of surplus, as it requires so much to support brood-rearing at this time of the year.

Raspberry honey is fine, but there is not enough of it in this locality to yield much surplus, and at about the same time wild cherry blooms, which secretes bitter honey. Some seasons, locusts and dandelions are rich in nectar, and it is much better to have these honeys *made into bees*, than mixed up in surplus.

White Clover Honey.

When the spring flows of nectar are passed, and the apiary has been managed intelligently, every colony will be ready for business, with its hive full to over-flowing with workers, anxious for the fray. Where there are acres upon acres of white clover, with millions of blossoms, and the electrical conditions are favorable for the secretion of nectar, comb will be built so rapidly to store the flood coming in, that it will be so delicate as to be almost imperceptible, as it melts away in the mouth. When there are millions of nectar-bearing blossoms of white clover, there is no need for bees to roam among other flowers to get honey to mix with clover.

It is evident that white clover honey is simply the nectar secreted in the blossoms, gathered and evaporated by bees. I have eaten the white sage honey of California, the orange of Florida, yet I have never seen the white clover of the North excelled in delicacy of flavor—a real ambrosia, fit food for gods.

Basswood Honey.

This is a fine white honey, with a flavor peculiarly its own. In this locality, there is little of this honey to be had in its purity, as it blooms before the close of the white clover, and usually lasts only for a day or so. In northern latitudes the bloom lasts for three weeks, and the trees are very plentiful. More honey has been gathered in one day from this source, than from any other.

About twenty years ago a bee-keeper in this vicinity knowing the reputation of these trees, erected a monument to his memory, by planting them largely, and in order to prolong the season of bloom, planted both the American and European varieties. His planting was a success, as far as the trees are concerned, for they grew finely, but he did not take into consideration the difference of soil and climate, and they are a partial failure as to honey. In this dry, sandy soil, the bloom all opens at once, and the bees hold high carnival while it lasts, for a day or so.

Granulated Honey.

At the National Bee-Convention at Detroit, there was on exhibition a square block of extracted, granulated, basswood honey. I was requested by the owner to sample it, and I never enjoyed eating any kind of confectionery as I did this magnificent sweet. The honey had been stored in a barrel, and, when it was used, it was taken out from one side, and a part left standing, which drained and hardened. A block was cut out from the dry side, and how nicely it sliced off.

Some persons have a mistaken idea, with reference to the granulation of honey. When it granulates in cold weather, as it runs out of the comb, they jump to the conclusion that the bees have been fed sugar, when it is an evidence of its purity.

Adulteration of Honey.

"Good morning: I called to see if I could buy some bees' honey. The doctor told me not to buy it at the store, but to get it where bees were kept, as there was so much manufactured stuff in the market."

"Come into the honey-house. Now what kind of honey do you want? Here is comb honey in sections, and there is extracted honey."

"The doctor told me to be sure and get bees' honey in the comb, and render it out myself."

"Now suppose I take this knife and cut off the cells and put it into that tin can which I call an extractor, turn the crank, and throw out the honey, would not that do?"

"No; the doctor said I must render it out myself. What do you charge for that white honey?"

"Twenty-five cents a pound."

"Twenty-five cents per pound? Why, I bought as nice honey three years ago as that for 'a bit,' and some for ten cents. What has become of all the honey? Then there was piles of it in the stores?"

"There has been a failure in the honey crop for several years. I want to make a bargain with you. When the doctor calls again, find out where I can buy some manufactured honey, for there is a man in Ohio who offers five hundred dollars for a sample. I'll go snooks with you, as the children say, and we'll make some money. Now my good woman, don't you suppose that if comb honey could be manufactured, at the price it now brings, the stores would be full of it?"

Peoria, Ills.

VALUE OF COMBS.

Practicability of Saving them for Several Years' Operation.

Written for the American Bee Journal

BY A. E. MALEY.

MR. NEWMAN:—I send you the following article which I found in our county paper, and think it worthy a place in the AMERICAN BEE JOURNAL. It is as follows:

It has long been a question with bee-keepers whether honey-combs could not be used for repeated filling, thus saving much time to the busy insect. A correspondent of the Germantown *Telegraph* considers the question as completely settled, for he has thoroughly tested the experiment in his own apiary. He says: A bee-hive should contain about 1,800 or 2,000 cubic inches in the brood-chamber, which will require 1¼ pounds of comb to fill it (if properly arranged as the bees will do), this being a fact as every one knows anything can testify. It requires at least 25 pounds of liquid, sweet or honey as the case may be, to make the 1¼ pounds of comb, which it also requires at least 15 days' time for a good colony of bees to gather and secrete into wax in order to build the combs from, which is to supply the brood-chamber. It is also a fact, not successfully controverted, that a good colony of bees, say 20,000 strong, will gather at least 8 or 10 pounds of honey in a day if the honey season is a good one. We have often had them gather double that amount in a day.

At first thought, those who think but little about the true value of combs can hardly believe that it takes 25 pounds of honey for the bees to produce a pound and a quarter of comb, yet this statement is true, and any one who can figure will find that bees will store at least 100 pounds of nice honey in a season in combs given them to start with, and not compel them to use up the best and most valuable honey for making their combs.

We have often contended, and are still of the opinion that the best honey is gathered about the time that fruit blossoms come out, and especially when the white clover and other earliest blossoms are in full vigor, which is usually the time our bees here in the North do their swarming.

They are too often placed in an empty hive or gum to build new combs and shift for themselves, or, as it is usually called "luck," while we are very sure the old sinner "luck" has for many years been a failure.

As before stated, the first honey is our best, and in order to procure the

best we must save our combs from colonies that may have died, or in some other way left their hive, which is done too often by spring dwindling. These combs are truly valuable to the bee-keeper, and can be turned to good account by saving them for another year's operation. Do not melt them up for wax, for surely there is but little pay in the wax to the producer at 20 or 23 cents per pound, while the combs in many instances can be turned to good account by giving them to the bees, which will soon fill them with the best of all sweets—that of honey—which you can with very little expense extract and return the combs to the bees for refilling, and thus make a saving of at least 100 pounds of nice extracted honey worth, as a rule, 15 cents per pound.

"We know whereof we speak when we state that in the year 1882 we took from one colony of Cyprian bees 718 pounds of nicely extracted honey, which netted us 20 cents per pound; this we could not have done had we not saved our best combs and used trem as before stated, saving both time and honey in the early part of the season, giving the bees the full benefit of a splendid honey harvest. Again let me say, look well to your bees, and they in return will richly repay you for all the trouble you may be at in their care. Time in bee-keeping may be as valuable as in any other calling on earth, and he who will heed its demands must expect to make slow progress."

Auburn, Nebr.

[We doubt the value of the advice to save empty combs for use during the succeeding season. It would be better to melt them up and use comb foundation, especially when the price of the latter is so reasonable as it is at the present time. The trouble of preserving combs from the ravages of moths would then be averted, which to the careless or inexperienced is something to think of.—ED.]

CANADA.

The Bee-Men of Norfolk Meet and Talk.

Written for the Norfolk Reformer.

The Norfolk Bee-Keepers' Association met at Dean's Hotel, on Sept. 1, 1888. The Vice-President, L. W. Kitchen, opened the meeting.

Mr. Rider reported very few swarms, no light honey, all dark, with an average of about 20 pounds of comb honey per colony.

Mr. Murphy reports no early honey. From 10 colonies in the spring he had extracted 500 pounds, and increased to 15 colonies.

Mr. McInlay gave his report. He had 115 colonies in the spring, increased to 200 colonies, and had 4,500 pounds of honey. He had worked on the tiering-up system this season, which was generally thought best for a year of this kind.

Mr. Kitchen reported very little early brood, and no clover honey. He had 6 colonies in the spring, increased to 8, and had taken 140 pounds of honey.

R. S. Gage reported an average yield of honey, but no increase.

C. W. Culver gave this report: From 13 colonies in the spring he increased to 23, and had taken 400 pounds of honey, gathered from the Japanese buckwheat. The winter stores are all buckwheat honey this year.

Rag-weed, motherwort, and golden-rod were spoken of as good honey plants this year. It was decided to give a special prize of $10 at the Union Exhibition for the best and neatest display of honey and apiarian fixtures, the largest amount not necessary to win.

The next meeting will be held in Delhi, on Dec. 2.

THE QUEEN.

Lessons in Government from the Bee-Hive.

Written for the American Bee Journal

BY G. P. HACHENBERG, M. D.

Perhaps there is nothing in nature that has excited my admiration more than to watch and study the government of a thrifty colony of bees under the influence of the queen. The laws of political economy as instituted by man, surely could not improve it. Did nature here give *us* a representation of a government as it should be? If so, what a reflection on democracy?

When in the service as surgeon in the United States army in the far Northwest, I greatly astonished an Indian chief by telling him that the most powerful nation of the world was governed by a woman. He thought "such a nation was no good." Let me state here what I told him, that no King ever did as well as Queen Victoria. Here comes to our mind what is the nature of that psycological influence of woman that is gifted to rule? It may not suit us men always to accede this gift to her, but nevertheless she has it, and it soon would manifest itself if physically she held the relation to man that working bees do to the drones. Her primitive power to govern is manifested over her children.

No man can do justice to a child as a good woman can. And when she is called to a higher sphere of government, as her latent powers are brought into requisition, they develop into an irresistible force and influence. What woman ever took the military field that did not control every soldier heart and hand? It may be admitted that her force of reasoning and her power of execution may not be equal to man *caeteris paribus;* but her intuition of what is proper, armed with her own quick manner of reasoning, is not apt to run riot with false premises, such as characterizes so often the mental operations of man. Of course I only speak here of the best of women, and the general run of men in power, and not the woman that has been crushed by misfortune, perhaps through the bad habits and viciousness of her parents, husband and brothers or sons.

I have no doubt we have some women in this country, if any one of them could be made President of the United States, *with an able cabinet of men*, would glorify this country perhaps more than any President did since the days of Washington. With such a President and such a cabinet, their sexes would form hardly a factor in the party, except such as exist between father and daughter, son and mother, or rather between the bee-queen and her workers. The affiliation would be close, but exceedingly deferential and respectful, such as could not exist with any ruling power made up of one sex.

Nature evidently has made the female a ruling power—to rule in love, peace, and harmony. The male in all departments of animal life is by nature selfish, cruel, and exceedingly belligerent. In this there is no exception in man—and only where he soars over his own sex, he is a gentleman, a Christian, and a true scholar.

Austin, Texas.

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ The annual meeting of the Ontario Bee-Keepers' Association will be held at Owen Sound, Ont., on Jan. 8 and 9, 1889. W. COUSE, *Sec.*

☞ The twentieth annual convention of the New York State Bee-Keepers' Association will be held in the City Hall, Syracuse, N. Y., on Dec. 11, 12 and 13, 1888. G. M. KNICKERBOCKER, *Sec.*

☞ The 23rd annual meeting of the Michigan State Bee-Keepers' Association will be held in the Council Room at Jackson, Mich., on Dec. 12 and 13, 1888. Greatly reduced rates have been secured at the Hurd House, also at the Commercial House (near the Michigan Central depot) at $1.50 and $1.00 per day. A programme is being prepared and excellent essays are already promised. Any bee-keeper having anything new and useful, and finding it impossible to be present, can send it by Express to Jackson, in care of the Secretary, who will place it on exhibition and return it as per orders. Please to come and bring your bee-keeping friends with you.

H. D. CUTTING, *Sec*

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Dec. 11-13.—New York State, at Syracuse, N. Y.
G. H. Knickerbocker, Sec., Pine Plains, N. Y.

Dec. 12, 13.—Michigan State, at Jackson, Mich.
H. D. Cutting, Sec., Clinton, Mich.

1889.
Jan. 8, 9.—Ontario, at Owen Sound, Ont.
W. Couse, Sec., Streetsville, Ont.

Jan. 9-11.—Nebraska State, at Lincoln, Nebr.
J. N. Heater, Sec., Columbus, Nebr.

May 4.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Results of the Season.—R. L. Tucker, Nevada, Mo., on Dec. 1, 1888, writes:

I commenced the season with 75 colonies, having lost 11 last winter. I doubled up the weak ones in the spring, and obtained about 4,000 pounds of choice clover and linden honey, of which 600 pounds was put in one-pound sections. I am now out of the bee-business, but I do not think that I will get much rest until I get back into it again.

Sugar Syrup Granulating, etc.—G. H. Ashby, Albion, N. Y., on Nov. 27, 1888, writes:

I have noticed lately a good deal of complaint about sugar syrup granulating in the comb after feeding, and I think that I can see the main trouble. Those giving directions for making such syrup invariably say, take so many parts of granulated sugar, and so many of water. I have not seen the kind of water mentioned. Now soft water should always be used, and if not more than brought to a boil, it will not granulate, unless it is made too rich with sugar. I use two parts of sugar to one part of water, and never had it granulate. If hard water is used, acid must be added to correspond with the hardness of the water. Any confectioner can tell one all about it. Some do not need these instructions, but I am satisfied by reports that a good many do.

The honey season was very poor here, being about 20 per cent. of an average crop. Bees have had but few flights since Sept. 20, and gathered nothing since that time, although there was lots of bloom. It will make seven months' subsistence on less than the average amount of stores. All will depend upon the weather of early spring.

Bee-Literature and Bee-Work.—Jas. W. Tefft, of Collamer, N. Y., writes as follows:

The AMERICAN BEE JOURNAL comes so regularly, and is freighted with the best about bees and honey. It is a remarkably clean paper, and is doing the bee-keepers of the world an inestimable amount of good. Its valuable opinions cause us all to think, and stimulate self-respect among bee-keepers. It is noted for the heavy paper on which it is printed, the artistic taste displayed in its illustrations, and the typographical work in general. To read and study it is to acquire a thorough knowledge of bee-keeping not readily obtained in any other way. It also illustrates the fact that honey producing is one of the noblest pursuits.

There are two kinds of men in the world—those who care for bee-keeping, and those who do not; the latter class have no sympathy for the enthusiasm of the former, and are at a loss to see how the former can think that working in wet weather, on an empty stomach, long hours in cramped positions, and no end of bodily discomfort and hard work, can compensate for a few miserable pounds of honey! Nor can a true bee-keeper tell, but he simply knows that they do.

Originality in Bee-Keeping.—C. D. Battey, Peterboro, N. Y., on Dec. 3, 1888, says:

I have been a constant reader of the BEE JOURNAL for nearly a year, and I find it very interesting and instructive, although this is my thirtieth year in bee-keeping. I commenced when at the age of 8 years, and have been constantly in the business ever since. I have tried a large number of hives, plans, etc., in that time, but I have discarded them all, and I use hives and fixtures, and, I may say, a process of my own of managing bees. But I have always found that the more a man reads and studies, the more perfect will be his own theorizing. I have also built a house for wintering bees, above the surface of the ground. It is entirely different from what most bee-men advocate, but it was a perfect success last winter, and I now have 125 colonies peacefully at rest within its sawdust walls.

Spraying Orchard Bloom, etc.—Dr. I. W. Warner, Elba, N. Y., on Dec. 3, 1888, writes:

1. Will you tell me through the AMERICAN BEE JOURNAL what effect, if any, spraying an orchard in full bloom with Paris green or London purple will have on the bees or honey? This has been a poor year for the bees and for me. I have 50 colonies. 2. Is there much honey stored in the State of Maryland? Is the central portion of the State a good bee-country?

[1. The spraying should be done just as the blossoms have fallen in May, and before the worms have entered the fruit. Then as there is nothing to attract the bees, it will not be detrimental to them or the honey.

2. Maryland is a good honey-producing locality, but we cannot determine the comparative value of different parts of the State. Will Dr. W. G. Phelps, of Galena, Md., kindly answer that question in the BEE JOURNAL?—ED.]

Wintering Bees Out-Doors.—Dr. P. W. Schmidt, Ottawa Station, Mich., on Nov. 29, 1888, writes:

About one year ago I had the misfortune in the going of the railroad train, to have my left arm and a hip bone broken, from which I suffer badly yet, by the way of rheumatism, as I am 70 years old, and recovery is slow. I have 12 colonies of bees well packed on the summer stands in good sheds, as I think as much of my bees as some people think of a fine horse. They want to be protected as well as a horse. I did not get much honey this year, and the reason is, I am always gone away from home amongst the sick and afflicted, so I have to trust the bees to an ignorant man, and all know that if we have to look through another man's "spec's," we can see but little. I have had over 20 swarms, but through neglect I lost all but 3 of them. I got some honey, but not any to sell—200 pounds, that is all I obtained. My bees are in good condition, I think. I do not believe in any other way of wintering. I have kept bees all my life, but "out-door wintering of bees, well packed in straw," is my motto.

Heart's-Ease Honey.—Mr. E. T. Flanagan, Belleville, Ills., on Nov. 30, 1888, wrote as follows:

I did not get 100 pounds of honey during the summer from 160 strong colonies. In the fall they gathered enough to winter on from heart's-ease or smart-weed. The prospects are excellent for a tip-top crop from white clover next season.

Sneeze-Weed Honey, etc.—Mr. U. Stephenson, Gladstone, Ills., on Nov. 28, 1888, writes:

My bees did nothing until the fall honey-flow. I am situated near the confluence of the Henderson river or creek and the Mississippi, and fall flowers are abundant, such as golden-rod, asters, Spanish-needles and the sneeze-weed (*Helenium autumnale*), which I consider as good, and with me the surest producer of any of the above-named flowers. I have often wondered that this honey-plant was never mentioned by our modern writers. The honey is similar in appearance to the golden-rod honey, and I have had good judges pronounce it flavored with golden rod when I know there was none in it. I thought that I would call your attention to sneeze-wort, or "sneeze-weed," as I call it. I put 108 colonies into a good, warm, dry cellar or cave, on Nov. 26. A great many of which were so heavy that I am afraid they were too full.

A Magnificent Present

For every one who will send us a Club of five *new* subscribers for 1889, before next January. All the remaining issues of this year *free* to new subscribers.

This ATLAS contains large scale Maps of every country and civil division upon the face of the Globe.

It is beautifully illustrated with colored diagrams, that show wealth, debt, civil condition of people, chief productions, manufactures and commerce, religious sects, etc., and a superb line of engravings of much historical interest & value, together with many new and desirable features which are expressly gotten up for this work—among which will be found a concise History of each State.

Price, in best English cloth binding (size, closed, 11x14 inches; opened, 22x14 inches), **$4.50.**

To any one sending us, direct to this office, **FIVE NEW Subscribers** for one year, with $5.00, (renewals not to count) we will *present* this beautiful Atlas, by mail, postpaid.

We have purchased one of them for our own use, and regard it as a valuable acquisition to our library. It is handsomely bound and contains a fund of very useful knowledge. It contains **192** pages.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must go by express.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 120 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 65
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

International Bee-Convention.—The Pamphlet Report of the Columbus, Ohio, Convention is now issued, and copies have been sent to each member, as well as to the Colleges, Agricultural and Horticultural Societies and periodicals devoted to the industry. Copies can be obtained at this office, by mail, postpaid, for 25 cents. This pamphlet contaios the new bee-songs and words, as well as a portrait of the President. Bound up with the history of the International Society, and a full report of the Detroit, Indianapolis and Chicago conventions, for 50 cents, postpaid.

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

The Date on the wrapper label of your paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to carry the date another year ahead.

Do Not Fail to get up a club and send it with your renewal for next year.

Alfalfa Clover.—For habits and cultivatiou of this honey-plant, see page 245. We supply the seed at the following prices:—Per lb., 22c.; per peck, $3.00; per half-bushel, $5.50; per bushel of 60 lb., $10.00. If wanted by mail, add 10 cents per pound for bag and postage.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lbs., 18@19c.; 2-lbs., 16@17c. Good dark 1-lbs., 15@16c.; 2-lbs., 13@14c. Buckwheat 1-lbs., 14@15c.; 2-lbs., 12@12½c.—Extracted, 7@9c., depending upon quality and style of package. Receipts increasing, but demand still limited. Stock is not selling as freely this season as a year ago.

BEESWAX.—22c.

Nov. 13. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—It is selling fairly well at 18c. for best 1-lbs.; very fancy lots have sold at 20c. Dark and yellow comb sells slowly at 13@16c. Extracted, 7@9c., according to quality and style of package. The stock of best comb honey is light.

BEESWAX.—22c.

Nov. 22. R. A. BURNETT, 161 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 18@20c.; 2-lbs., 16@18c. Good dark 1-lbs., 16@18c.; 2-lbs., 15@16c.; fair 1-lbs., 12½@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9@9½c.; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.

BEESWAX.—22@23c.

Oct. 25. A. V. BISHOP, 142 W. Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c. 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.

BEESWAX.—23½c.

Sep. 17. THURBER, WHYLAND & CO

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 16@17c.; 2-lbs, 13@14c. Fair white 1-lbs., 14@15c.; 2-lbs., 11 to 12c. Buckwheat 1-lbs, 11@12c.; 2-lbs, 10c. White extracted, 8@9c.; buckwheat, 6@7c. Demand good for white 1-lbs. and buckwheat 1 and 2 lbs., of which the stock is light. Good stock of white 2-lbs., with but little demand.

BEESWAX.—22½@24c.

HILDRETH BROS. & SEGELKEN,

Nov. 24. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@12½c.; 2-lbs., 12@14c.; amber, 8@10c. Extracted, white, 6½@6¾c.; light amber, 6c.; amber and candied, 5¼@5½c. For comb honey the demand is light; for extracted it is good, and market firm.

BEESWAX.—Dull at 18@22c.

Nov. 15. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white 1-lbs., 17@18c. Supply is better. Extracted, 8@9c. Sales slow.

BEESWAX.—22@23c.

Nov. 17. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb. Best white comb honey, 16c. Demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Nov. 12. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.

BEESWAX.—None in market.

Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c.; light amber, in same cans, 7¾c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.

Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The receipts are very light, and honey sells fairly well.

Nov. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs., 17c.; fair, 14c.; California white 1-lbs., 17c.; 2-lbs., 15c. Extracted white California, 7½c.; amber, 7c.

BEESWAX.—None in the market.

Nov. 22. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted in barrels, 5@6c. according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.

BEESWAX.—21c. for prime.

Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6½ cents; light amber, 6@6½c.; amber, 5½c. Comb, white 1-lbs, 13@14c.; 2-lbs., 13c. Light amber 1-lbs., 12@13c.; 2-lbs., 11@12c. Demand very active for extracted, and fair for comb honey.

BEESWAX.—20@21c.

Nov. 6. SCHACHT & LEMCKE, 122-124 Davis St.

Advertisements.

TAKE NOTICE.

BEFORE placing your orders for SUPPLIES, write for prices on One-Piece All-White Basswood SECTIONS, planed on two sides, making them the finest Sections made. ☞ Other SUPPLIES to correspond. Address,

R. H. SCHMIDT & CO.,
47A26t NEW LONDON, Waupaca Co., WIS.
Mention the American Bee Journal.

To Every Lover of Good Reading :

DEAR FRIEND :—Mr. will C. Turner, the well known Publisher and Managing Editor of the CITY AND COUNTRY, that excellent 16-page monthly magazine published at Columbus, O., has recently made an offer in connection with his publication which should certainly be accepted by you. CITY AND COUNTRY has been regularly published at the rate of $1.00 per year, for the past seven years. Mr. Turner is anxious to increase his already large circulation within the next three months to 50,000 regular subscribers more.

To accomplish this purpose, believing that every subscriber will, at the expiration of their subscription, renew, he has devised the following plan :

Every person desiring to become a subscriber to CITY AND COUNTRY, which, by the way, contains each year *four to five continued stories, thirty to forty illustrations in each issue, and a large amount of interesting reading*—especially so to the ladies—is requested to carefully and plainly write out two complete copies of this letter, and sign your name at the bottom after the word "Per"——. These copies must then be mailed by you to two of your friends or acquaintances in some other town or locality, who are thereby requested to do just as you have done, viz : Write two copies and send to two of their friends, and so the work will go on and on. After mailing the two copies, the original letter which you copy from, together with a slip of writing paper, cut the size of a postal card, with your address plainly written on one side, and the addresses of the two to whom you have sent the copies on the other side, and 25 cents in silver or postage stamps must be enclosed in a letter and mailed to Will C. Turner, Columbus, O. On the receipt of these you will be placed on the subscription list for one year, the copy for the present month will be promptly mailed, and also, which is the greatest reason why you should accept this offer, *five complete novels* in pamphlet form will be sent you by mail, postpaid, which would *regularly cost one dollar each* if bound in cloth. Do not let the opportunity pass, as Mr. Turner only proposes to let this offer stand for a short time. True, it requires some time and work to copy all this twice, but you will be most handsomely rewarded for it.

[Signed,] WILL C. TURNER.

Per .....

EXTRACTED HONEY
FOR SALE.

WE have a Large Quantity of CHOICE **EXTRACTED HONEY** for Sale, in kegs holding about **220 pounds** each, which we will deliver on board the cars at **10 cents** per pound for the WHITE, and **9 cents** per pound for the AMBER COLORED. Orders are Solicited. Address,

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

1859. 1889.

LANGSTROTH REVISED.

The Progress of 30 Years.

This Book will be out during The Holidays.

It makes an entirely **new work,** and all who have read the former editions want this revision.

550 Pages—16 Plates.
Portraits of the World's Leading Bee-Writers.
Numerous New Engravings.

Nearly **Five Hundred Copies** of this book have been ordered before the first copy is out of the binders' hands.

☞ **Price, $2.00.** Discount on Quantities. Address,

CHAS. DADANT & SON,
50Atf HAMILTON, Hancock Co., ILLS.
Mention the American Bee Journal.

THOS. G. NEWMAN & SON,
DEALERS IN
Bee-Keepers' Supplies,
INCLUDING
Honey and Wax Extractors,
Comb Foundation—all styles,
Bee Hives—nailed and flat,
Sections, Crates and Frames,
Kegs and Pails for Honey,
Seeds for Honey Plants,
Smokers, Veils, etc.

ILLUSTRATED CATALOGUE
free upon application.

923 & 925 West Madison St.,
CHICAGO, ILLS.

HONEY

WE are now ready to receive shipments of HONEY, and would be pleased to open correspondence. Liberal advances made on consignments. Let us hear from you, as we can render prompt returns at the top market values. Reference on file with the American Bee Journal. **S. T. FISH & CO.,**
33A20t 189 So. Water St., CHICAGO, ILL.
Mention the American Bee Journal.

A SPECIAL DISCOUNT
ON HIVES.

In order to keep our Hive-Factory running during the dull season, we will make a DISCOUNT of 10 PER CENT on all orders for Hives, Cases, Frames, Shipping - Crates, and Bee-Feeders, received before Jan. 1, 1889.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.
Mention the American Bee Journal.

MOISTURE,

IF you would know the effects of moisture in bee-cellars, how injury to the bees from its presence may be avoided, or how to have dry cellars, read the November Number of the BEE-KEEPERS' REVIEW. It gives upon these points the views and experiences of Jas. Heddon, H. R. Boardman, Dr. C. C Miller, J. H. Martin, Eugene Secor, O. O. Poppleton, R, L. Taylor, Prof. A. J. Cook, and S. Corneil.—Besides this, there are the usual lively, wide-awake, pointed editorials upon current topics; also appropriate extracts pertaining to the special topic under discussion. The Dec. No. will discuss "Sections and their Adjustment on the Hives."

Price of the REVIEW, 50 cents a year. Samples free. Back Numbers can be furnished.

The REVIEW and "THE PRODUCTION OF COMB HONEY," for 65 cts.

Address, **W. Z. HUTCHINSON,**
48Etf 613 Wood St., FLINT, MICHIGAN.
Mention the American Bee Journal.

Free. ONE YEAR. Free.

WE have made arrangements with the publishers of the COTTAGE HEARTH, of Boston, Mass., to offer the AMERICAN BEE JOURNAL as a **free premium,** with their Magazine for the year 1889, and we now give to all our readers the benefit of this arrangement.

THE COTTAGE HEARTH

Is a well-known Family Magazine now in its 14th year, and is a favorite wherever it has been introduced. It has each month Music, Floral and Health Departments, Latest Fancy Work, Sabbath Reading, Demorest's Patterns, Approved Receipts, Household Hints, and Prize Puzzles for Children.

This beautifully Illustrated Monthly is a large 34-page, elegantly printed Magazine, and has attained a large circulation solely on its merits as a family magazine. Its

Price, $1.50 per Year,

is very low for such a desirable home magazine, but we will send both **The Cottage Hearth** and the AMERICAN BEE JOURNAL to any one who sends us **$1.50**—just the price of one of these standard publications.

☞ Sample Copies sent free on application to F. P. Shumway, Jr., Boston, Mass.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.

THE FLORAL INSTRUCTOR.

A Beautiful monthly magazine, especially designed for amateur cultivators, will be sent a whole year, on trial, for only 20c. in silver or stamps. Mention this paper in replying.

INSTRUCTOR PUB. CO., Ainsworth, Iowa.
49A3t

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

OVERSEERS WANTED Everywhere, at home or to travel. We wish to employ a reliable person **in your county** to tack up advertisements and show cards of Electric Goods. Advertisements to be tacked up everywhere on trees, fences and turnpikes, in conspicuous places, in town and country in all parts of the United States. Steady employment; **wages $2.50 per day;** expenses advanced; no talking required. Local work for all or part of the time. ADDRESS WITH STAMP
J. C. EMORY & CO., Sixth and Vine Sts. Bradford Building. CINCINNATI, OHIO.
☞NO ATTENTION PAID TO POSTAL CARDS.☜

Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Dec. 19, 1888. No. 51.

EDITORIAL BUZZINGS.

Peal, Christmas Bells, peal loud and deep!
King out a merry Christmas chime
Till darkened eyes forbear to weep,
And hard hearts glow with love divine.

In rippling music die away
With ringing laughter, glad and gay,
Till rich and full the dark night swells
With Christmas lights and Christmas bells.

Now is the time to sell the honey. The holidays are at hand, and the best prices rule about that time.

Do not send to us for sample copies of of any other papers. Send for such to the publishers of the papers you want.

The Pleasantest Things in the world are pleasant thoughts, and the great art in life is to have as many of them as possible.—*Bovee.*

Do Not Forget to send a dollar for a membership fee to the National Bee-Keepers' Union for 1889. It merits your approval, and needs your assistance.

The Ontario bee-keepers will meet in convention at Owen Sound on Jan. 8 and 9, 1889, at 2 p.m. For particulars about fares, etc., write to the Secretary, Mr. W. Couse, at Streetsville, Ont. Let there be a general rally, and profitable sessions will be the result.

Chin Protection.—A correspondent says that his bee-veil does not protect his chin. The "new bee-veil," having ribs of steel, fully protects not only the chin, but the whole head and face. It can be obtained at this office for a dollar, postpaid. It is the best protection ever invented.

Artificial Humbug.—S. Whan, of Venango Co., Pa., writes as follows to *Gleanings*, and which was published in the December number:

I fear your card in regard to false statements in the honey business will not prove effectual in all cases, as I met a man a few days ago who claimed he had talked with a man a few days previously who had eaten manufactured or artificial eggs in Chicago, and they could not be told from the genuine egg, except when attempting to beat the yolk and white together for pastries, as they would not mix. He also stated that the man had eaten artificial comb honey. After talking with him for some time I left him, in some doubt.

The editor follows this item with these remarks:

We had thought the story about manufactured eggs was too big for anybody to believe; and yet there seems to be some old fogies and reporters who still persist in repeating it. Before us lies a clipping entitled, "What Next?" It was taken from the Pittsburgh *Dispatch*. This clipping goes on to tell, in very plausible language, how eggs are manufactured, and how the same cannot be detected from the genuine. It is simply a rehash of the same old story. Why do not these chaps get up something new? Manufactured live chickens or artificial strawberries would make good material for another yarn. This clipping has been copied in other papers, and will continue to be copied, probably, as long as anybody can be made to believe it. If such stories must be repeated, we sincerely hope that these "wily" reporters will take in the whole fruit realm, and go so far that even the old fogies will shake their heads in doubt.

If there is anything bad or vile—anything marvelous or prodigious—it seems to find a base for proof in Chicago.

The "impudent" and "ignorant" repeaters of falsehoods—the malicious venders of "scientific pleasantries"—the venal and corrupt reporters of slanders about an honest and honorable pursuit, all pretend to find proof of their villainies in Chicago. Why is this? There is but one excuse, the city is large enough in which to hide, when attempting to trace their calumnies to the supposed source.

When cornered, one of these "detestable villains" lately averred that the manufactory for "paraffine combs filled with glucose and capped by machinery made for that purpose" was located at the "honey shop on Madison street, near Oakley street"—meaning the office of the AMERICAN BEE JOURNAL. He loudly claimed to have there "seen the process and machinery at work." But when pressed to go and show the place, by one who knew that the BEE JOURNAL was *fighting* such diabolical lies, he was pressed for time, and could not throw away time to prove what he *knew* existed, and had seen at work.

Artificial eggs, artificial comb honey, and the like, are only talked about for the purpose of *deceiving* the public and injuring the sale of useful articles of food. The one is as reasonable as the other, and *both* are impossible—creations of the fertile brains of newspaper reporters who write for the dollars they obtain for "spicy" but lying "articles," "interviews" which never occurred, and "fancy sketches" of things about which they are entirely ignorant.

Yes, Brother Root, the truth will never serve such fellows—they live on falsehoods and grow fat on carrion!

Mr. J. W. Bittenbender, when sending us a dollar for a year's subscription, makes this remark: "With pleasure I send you this dollar for subscription to the AMERICAN BEE JOURNAL; for it is the *best investment* a bee-keeper can make." It certainly is the *best* investment a bee-keeper can make, to subscribe for a good periodical devoted to the pursuit in which he is engaged. He needs to keep abreast of the times, and he cannot afford not to do so. He needs to be fully posted as to the crop of honey, the state of the market, and the price of the product. The only way to successfully do this is to take an interest in a good bee-paper. By the investment of a single dollar in the AMERICAN BEE JOURNAL, he will get 52 dividends—one every week. If he does not make this small investment, he stands in his own light!

Reader, do not fail to send a dollar and get those 52 dividends for 1889.

The Rev. L. L. Langstroth has again recovered (at least partially) from his severe indisposition, lasting for some months, which caused a great weakness of body, although it did not induce the distressing despondency of former periods of illness. As usual, he has not been able to use his pen during the intervening months covered by his indisposition. He writes us that he begins "to feel that the worst is now over." We hope it is, and that he may now be able to enjoy the remaining years of a noble life, and when the summons comes to enter eternal life, he may receive a hearty welcome at the portals of Glory, and become one of "the living stones" in the Temple of Heaven, where no *discordant voice* of censure or bitterness will ever be heard, and all experience will be perfect bliss, and all expressions will be perfect praise, and "love divine will ennoble every heart, and hallelujahs exalted employ every tongue."

Foul Brood (so-called) is said to be cured by the use of dried thyme, in Switzerland. The *Bee-Keepers' Record* for December remarks as follows:

According to a newspaper cutting just sent us, a Swiss bee-keeper cured foul brood with thyme. This common herb was dried, put into an ordinary smoker, set alight, and the smoke injected plentifully into the hive at the entrance. After doing this eight evenings, he found the larvæ, which had died from the disease, quite dry, and the new brood in a perfect, healthy condition. He continued the fumigation another eight days, which ended in a complete cure of the disease.

Roaches.—Gum camphor will speedily clear the house of cockroaches.

GLEANINGS OF NEWS.

Bees in Winter.—The *American Agriculturist* for December contains the following directions for the care of bees in winter, from the pen of Mr. W. Z. Hutchinson. It contains many valuable hints about bees in winter quarters. He says :

There are various methods of preparing bees for winter so that no subsequent care is needed. One is to place the hives above the snow line, packing them in chaff, leaves, sawdust, or fine hay, with a rim two inches wide under each hive. When prepared in this manner the entrance cannot be clogged by snow or dead bees. Should a warm day occur, the bees can enjoy a flight.

Another method is to bury bees in a pit or "clamp," where, of course, no attention can be given. Bees stored in a properly arranged cellar or repository require no attention except to see that they are undisturbed by rats or mice, and that the temperature and ventilation are correct. An effective way of getting rid of mice or rats in a cellar is to poison them with eqnal parts of arsenic, flour and sugar. The temperature shonld be kept at about 45° during the early part of the winter.

After the bees have commenced brood-rearing, say in February, a higher temperature is beneficial, and it may be gradually raised to about 55°. Authorities differ in regard to ventilation ; but pure air in the cellar can do no harm, and there is no better method of supplying it than through tiles laid below the frost line.

An abundance of stores should be left in the hive, as it would probably be better to allow a few colonies to starve than to disturb all the hives by examining them to learn if any needed feeding. Should it be discovered, however, that a colony is short of stores, and there are no combs of honey to give it, candy made of granulated sugar may be fed.

Hives, as usually prepared for winter, are often partially buried in snow. This does no harm, but may be beneficial, until a warm day comes and the bees wish to fly, when the snow must be shoveled away from the entrance, or the cover removed, and the bees be allowed to take their "purifying flight" from the top of the hive.

Hives standing in the open air should be protected against the intrusion of mice. Have the entrance only ¼ of an inch high, and protected with tin.

Skunks sometimes scratch at the entrance of a hive ; the bees come out to learn the cause of the disturbance, and are caught. A box-trap set for the skunk is the best preventive. The animal never discharges its weapon while in a box-trap.

When bees are buried in a pit, a sandy hill-side should be selected as the site, and a tile drain put underneath. When these precautions have been neglected, care should be taken that no water stands upon the surface around the pit.

A California Pun.—"Say, Gran'pa, wh'd'ye spose was the cause of the yell Charley gave when he passed the bee-hives just now ?"

"Give it up, Johnny."

"Why, bee-cause, of course."—*San Francisco Examiner.*

Your Full Address, plainly written, is very essential in order to avoid mistakes.

Five-Cent Packages of Comb Honey.—Mr. W. Harmer, of Manistee, Mich., who got up the two-ounce packages of honey in the comb, reports that he has made another improvement in the plan of getting them for the market. He says :

The improvement is in the production of the two ounce sections without inserting comb foundation in them, when finished there is no center piece or mid-rib, but one continuous cell capped on both ends.

Foundation is used, but it is removed before the honey is quite finished, and the same sheets of foundation can be used over and over again. I consider this a great improvement, as it produces a more delicate article with less trouble. This is true economy, and you will agree with me, is in the right direction to work.

I do not think this would be an improvement for the larger sections, for the mid-rib gives support for shipping, and we get more honey for the amount of wax than we would in a small section that was only ⅞ of an inch thick.

Of course there is no patent on this, but I think it will be a great help to those who produce honey in the two-ounce sections, as the trouble of putting in the foundation has been mentioned as an objection to them.

Christmas Weather Proverbs are not new, but may be interesting reading to some, who may fancy speculating upon the coming year and its prospects. They are as follows :

A warm Christmas, a cold Easter.
A light Christmas, a heavy sheaf.
A green Christmas, a white Easter.
A green Christmas, a fat cemetery.
A wind on Christmas day, trees will bring much fruit.
If Christmas finds a bridge, he'll break it ; if he finds none, he'll make one.
If ice will bear a man before Christmas, it will not bear a man afterward.
The shepherd would rather see his wife enter the stable on Christmas day than the sun.
If the sun shines through the apple-tree on Christmas day, there will be an abundant crop the following year.

Bee and Pigeon Race.—On page 692 we gave an absurd item from the London *Sporting News* on the above race, said to be had in Germany. The *Bee-Keepers' Record* has been tracing it out, and gives the following explanation of it :

Referring to the absurd paragraph which went the round of the British press, describing what was called a "Bee Race," we are enabled, through the courtesy of a gentleman conversant with the German language, to give a correct version of the affair as described in the German papers .It appears the race actually took place, and was for *one mile*, not "*one hour.*" The bees were dusted well with flour before being started, consequently they were *white*, hence the mistake as to the "white drones" referred to as returning first to the hive. Finally the eight working bees preceded the ten pigeons by one *second*, not "a length," as stated.

The Time for Reading has come, with the long winter evenings. We have a large stock of bee-books, and would like to fill orders for them. To read and post up is the way to succeed in any pursuit—in none is it more important than in bee-keeping.

The January Number of *Frank Leslie's Sunday Magazine*, coming before the holidays, very properly and pleasantly devotes some of its pages to Christmas scenes, stories and poems. Beginning with a beautiful poem by G. A. Davis, entitled, "Under the Mistletoe, A. D. 1187," we have discussions of the "Significance of Christmas," "Christmas Customs and Festivities," "Christmas Street Music," and "Christmas at Mount Vernom," a poem by Etta W. Pierce. There are also an article, "From Bethlehem to Calvary," with fou full-page pictures of actual scenes in the Holy Land from recent photographs, a very interesting article on "The Legend of the Holy Grail," and a caustic one on "The Firm of Push & Pull," by Dr. Talmage. This number is the first of a new volume, and affords a favorable time to subscribe to the magazine.

To Our Subscribers.—Send to F. P. Shumway, Jr., Boston, Mass., for a *free* sample copy of the *Cottage Hearth*, a beautiful illustrated magazine, and so realize what an EXTRAORDINARY OFFER we are making when we propose to send both the *Cottage Hearth* and the AMERICAN BEE JOURNAL for a full year for only $1.50, when the price of the *Cottage Hearth* alone is $1.50 a year, thus giving you two standard publications at the price of one.

While we are now getting ready for the rigors of winter, the Australian bee-keepers are preparing for their honey season. From the last *Australasian Bee Journal* (Oct. 1) we learn that the season has opened up unusually early. Swarming has already commenced, and the prospects are bright. Who knows but this is simply a forerunner of what we may expect when our spring comes ? Certainly such a state of affairs will be very acceptable. Our world is so large, that we sometimes think that the whole of it is going into winter quarters. It is refreshing to hear the notes of spring, even though from a far country.—*Gleanings.*

To Delinquents.—After January 1, 1889, we shall discontinue sending the AMERICAN BEE JOURNAL to those who have not responded to the bills we sent out a few weeks ago.

This does not mean that we shall try to *deprive any one* of the pleasnre of reading the BEE JOURNAL who really desires its continuance, but finds it difficult to pay now. Such can get a short extension of time by asking for it. We should be sorry to lose any subscriber who wishes to have its weekly visits continued, but do not want any to continue to take it who do not think they are getting the full worth of their money.

We hope each one will endeavor to send us one or more new subscribers when they renew. We want at least ten thousand subscribers for 1889.

QUERIES & REPLIES.

Securing Clean Sections of Comb Honey.

Written for the American Bee Journal

Query 598.—Is there any method by which honey can be secured in sections so clean as not to need scraping?—S.

No.—M. MAHIN.

I have found none.—MRS. L. HARRISON.

I do not know of any.—A. B. MASON.

Not that I know of.—J. M. HAMBAUGH.

None that I am aware of.—J. E. POND.

I think not, that would satisfy me.—C. C. MILLER.

There is no practical way of securing it so clean that it will not be the better of some scraping.—R. L. TAYLOR.

By using wide frames properly made, the sections will need very little scraping.—G. M. DOOLITTLE.

Yes, by using crates so arranged that the entrance to the sections is the only part exposed to the bees.—J. P. H. BROWN.

By using clamps—the Manum, Foster or Heddon—there will be but little propolis. But the principal requirement is to take off the sections as soon as sealed.—DADANT & SON.

Yes. I believe there has lately been invented a section-case by somebody, that pretends to accomplish this feat (?).—WILL M. BARNUM.

I do not think that there is. It makes no difference what kind of crate, or how tight you put the sections together, there is always a little scraping to be done.—P. L. VIALLON.

Yes. The "two-part super" with wooden partitions and section shields will do it, if care is used in filling the super.—J. M. SHUCK.

No, not invariably; but with a slatted honey-board we get very nearly there. But the bee-spaces must be just right.—A. J. COOK.

Not all, at all times of the year, and in all localities. There are places where, at times, no propolis is gathered by the bees, and when honey is stored and finished then and there, no matter what style of case you use, no scraping is needed.—JAMES HEDDON.

No, not if you want to put your honey on the market in first-class condition, and that is the only condition you should put up honey for market.—H. D. CUTTING.

Mr. Shuck's method very nearly accomplishes it, but there is more work in putting up the cases. I shall be glad to know of one that will leave the sections so clean that they need no scraping, and yet can be manipulated rapidly.—EUGENE SECOR.

No, there is no method that is practicable in a large apiary, that will entirely exclude propolis. I use a section-case adapted to the tiering system, and I only have to clean the edges of the sections. Bees will *spew* propolis between the edges of the sections, no matter how closely they join together.—G. W. DEMAREE.

No. There will always be some propolis in the corners and edges of the sections. No system is perfect where the bees are allowed to come in contact with the outside of the sections. Carniolan bees use very little propolis, and sections filled by them need but little scraping.—C. H. DIBBERN.

Perhaps no method will prevent *all* propolis, but it can be reduced to a minimum by the use of section protectors of the same size and shape of the bottom-bars of sections, then the edges alone are exposed. To take away the honey as soon as capped will prevent much discoloration. But in all methods the edges of the sections should be scraped.—THE EDITOR.

Sawdust for Protection Around the Hives.

Written for the American Bee Journal

Query 599.—I can get all the sawdust I want by hauling it 300 yards. Will it pay me to haul it and put it around three sides of my hives on the summer stands, placing none in front, for winter protection?—Kentucky.

Not if you put it on loose.—DADANT & SON.

For myself, I should consider it of no value whatever.—J. E. POND.

I think it would. It would in this latitude, if kept dry.—R. L. TAYLOR.

I have had no experience. In some locations it might pay.—C. C. MILLER.

Yes, if dry, with the extra precaution of a good covering.—J. M. HAMBAUGH.

I would not advise sawdust in the apiary, since I had it to get on fire by sparks from the smoker.—P. L. VIALLON.

I should think it would, and by fixing the entrance the sawdust could be used in front also.—A. B. MASON.

I am in doubt on the subject. If dry, and kept dry, it might be all right.—EUGENE SECOR.

I think not. In Kentucky no packing is necessary. A few inches of sawdust over the brood-nest, with ventilation above it, would be an advantage.—M. MAHIN.

It would be a great help if the sawdust is protected and kept dry.—H. D. CUTTING.

It is doubtful, unless the sawdust is dry, and can be kept so. Chaff hives would be much more preferable.—G. M. DOOLITTLE.

No. It absorbs moisture, and promotes the decay of the hives. It will pay to place it around the hives to keep weeds down.—J. P. H. BROWN.

In your latitude I do not believe that it would pay to do this. Try a few and determine for yourself.—C. H. DIBBERN.

In a Northern latitude it doubtless would, if covered so as to keep the sawdust dry. In Kentucky I should think that it would not pay.—MRS. L. HARRISON.

I am satisfied that it would pay me, though it would have to be packed down well. Why not put it in front of the hive also, laying a thin board before the hive-entrance?—WILL M. BARNUM.

I do not know just what sort of a climate you have, but I think that it will pay you to do as you say. I would put the sawdust between the hive and an outer case, and keep it dry at all times.—JAMES HEDDON.

It makes it very easy to find a queen, to have sawdust all over the ground, but there is always danger from fire. I have tried all the ways, and I settle down on a close, smoothly-cut lawn.—A. J. COOK.

It will pay well if intelligent and faithful treatment follows through the seasons. If the bees are to be "let alone" during the gathering season, and no profit derived, any expense whatever is so much lost.—J. M. SHUCK.

I think not; our winters in Kentucky are usually attended with a great deal of wet weather, rain and melting snow, and your bank of sawdust would become a wet heap about your hives, well calculated to rot the under part of your hives without doing any good. Here in Kentucky, plenty of stores and some warm quilts over the tops of the frames have proven ample protection to my bees. Give me a hive full of honey, and I will show you rousing colonies in the spring, no matter if the winter "howls."—G. W. DEMAREE.

In your latitude it would hardly pay, we think; especially if not kept dry and well packed down. If you try it for a few hives, you can better judge of its utility.—THE EDITOR.

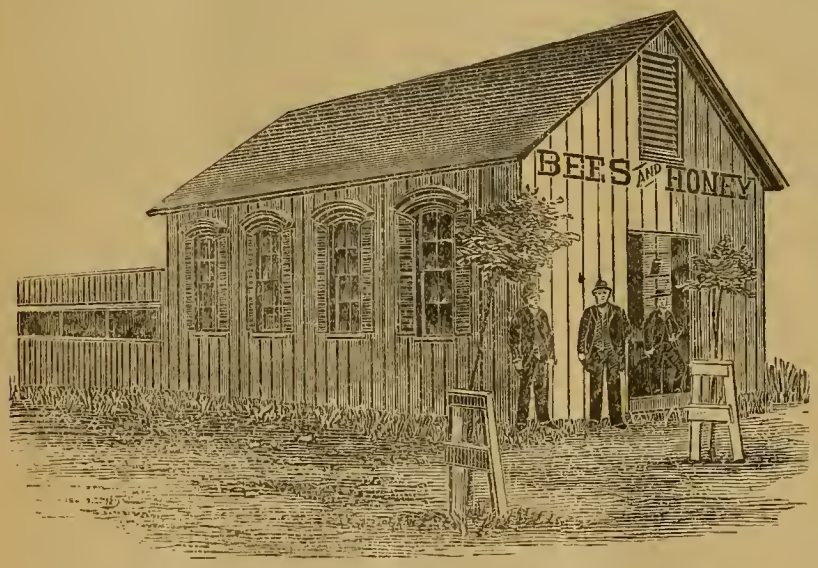
CORRESPONDENCE.

NEBRASKA.

The Apiarian Exhibit at the State Fair.

Written for the American Bee Journal
BY J. N. HEATER.

I have sent a picture of the building erected by the Nebraska State Fair Association expressly for the bee and honey exhibit. The building is 20x30 feet, with a bee-yard 20x24 feet. The interior of the building is arranged with tables on one side for the honey exhibit, on the other side for implements with an elevated platform the full length of the implement tables, for exhibitors to stand upon and explain their wares.



House for the Apiarian Exhibit at the Nebraska State Fair.

A high, tight board-fence is at the rear of the building; this is the bee-yard, which is entered from the building through double sliding-doors, the inner one covered with wire-netting. There is also wire-screen windows all the way around the fence, which permit persons to see inside the enclosure with safety. The fence is 8 feet high, which compels the bees to fly high in the air when going to and from the hives, passing over the heads of the people.

The State Fair Association have, we think, been very liberal with us in putting up so neat a building for our use, and they still further promise to revise and enlarge the premium list, and make the bee and honey show a permanent feature of our future fairs.

Upon looking at the picture, one would no doubt ask who the parties are, standing in front of the building. The one at the corner with heavy side-whiskers is the Superintendent of the Bee and Honey Department of the State Fair, Mr. E. Whitcomb, Friend, Nebr., and to whom every bee-keeper and lover of honey in this State is indebted perhaps more than to any other person, for securing permanent quarters, and so neat and convenient a building on the grounds of the Nebraska State Fair Association. When the bee-keepers in convention last winter recommended Mr. Whitcomb to be appointed superintendent of this department, we requested him to endeavor to secure for us a permanent location, and, if possible, a building, not thinking that any one would be able to accomplish so much in our interest.

The middle gentleman is Mr. M. L. Trester, of Lincoln, the President of the Nebraska State Bee-Keepers' Association, and the modest fellow standing in the door is the writer, your humble servant.

Columbus, Nebr.

UNDER THE SNOW.

The Wintering of Bees Under the Snow, etc.

Written for the American Bee Journal
BY G. M. DOOLITTLE.

As winter has again put in its appearance, and the time of snow is at hand, I thought it best to write a word of caution about wintering bees under a snow-bank, as we have often been advised to do, in our bee-papers and elsewhere. I know that there are some who seem to have success in that way, but with me, whenever I have tried it, either by purposely doing so, or by getting caught with a deep snow-bank over a part of my bees when I did not expect to be so caught, the result has always been one of disastrous wintering. Why this should be so I do not know.

All seems to go well for a short time, say three or four weeks, when the bees get uneasy and begin breeding, which brings on bee-diarrhea, resulting in the soiling of the hive and combs, and finally death ensues. If any of them get through to spring, they are taken with spring dwindling, so as to be nearly worthless as colonies for storing honey. What causes such a state of affairs, I do not know, unless it is because the bees get too warm; for I always find the snow all thawed away from the hive, enough so that a small dog or cat could go all around it at the bottom, with no frost in the ground.

As my hives are only three inches off the ground, that may have something to do with the matter; and I would here ask those who are successful in wintering bees under snow, to tell us how much above the ground they have their hives when under the snow.

To illustrate the condition I always find my bees in, when I have tried to winter them under snow, and to show that I am not the only one who cannot succeed by this plan, I will quote a little from an article found on page 409 of the AMERICAN BEE JOURNAL for 1885, written by L. H. Scudder, of New Boston, Ills. He says:

"Fifty colonies left on the summer stands were in Langstroth hives in a row along the east side of a hedge, and about four inches from the ground. Soon after winter set in, the snow drifted until it was level with the top of the hedge, thus completely burying the bees under a snow-drift from 3 to 5 feet deep. It looked like cold comfort for the 'little busy bees,' but as I had frequently heard that plan of wintering recommended, I concluded to let them alone; however, after allowing them to remain in that condition for some three or four weeks, I thought I would see how they were doing, and accordingly I opened up a trench in front of 16 hives, and found the bees all alive, and apparently in good condition.

"By this time I was tired of shoveling snow, and being satisfied that I could not improve their condition, I quit work, leaving 34 colonies under the snow unmolested until March 1, when it commenced thawing. I then

opened them up, and found but few living, and all in a miserable condition. They all had been breeding, some having five or six frames of brood. It took but a glance to see that diarrhea had done its work effectually. Of this lot of 34, 6 are now living, and from the 16 from which the snow was removed, 10 are living."

In the above case it will be seen that Mr. Scudder's bees were 4 inches off the ground, yet his experience was almost exactly the same as mine has been for the past 15 years, whenever I let any of my bees get drifted under.

I would advise all those who have not had experience in the matter, not to let many of their colonies get drifted under snow until they are sure that they will winter well that way.

The Best Kind of Hives.

From the many letters which I get, asking how much more honey the writers would be likely to get if they were to change the hives they were now using for such and such hives, it would seem that there was an impression in the minds of some that the *hive* produced the honey, to a certain extent at least, rather than the bees. Now this is not true. Bees will store as much honey in one hive as in another, or in a nail-keg, for that matter, provided they have at all times as much room as they need. All that any hive can claim over the nail-keg is, the case that it gives in manipulation, and the facilities it possesses for giving us the product of the bees in the most marketable shape. It is the bees, not hives, which produce honey.

With a hive which is easy of manipulation, we can get the bees in time to collect the harvest of honey which, God in his providence causes the flowers to secrete at certain periods of the year; while if the nail-keg is used, or some unwieldy hive, we have little if any control of the matter of getting the bees at just the right time for the harvest.

With the nail-keg, we could cut the honey out of the top of it, to a certain extent, and so supply ourselves with the product of the bees, which, perhaps, would be better than no honey at all; but no one who retails honey at the present time would give half as much for it, as they would for honey in the nice sections of the present day.

If any one has to the number of 25 colonies of bees in any of the good, movable-frame hives of to-day, I do not believe that there is enough advantage to be gained by changing them to a hive of another pattern to pay for the cost of changing; nor do I believe that the labor of manipulation will be lessened with the new hive to any extent proportionate to the cost which will be required. Any of the new theories of the day can be accomplished with any of the half-dozen good hives we have in the different apiaries of our land, and any of the different surplus arrangements can be fitted to any of these hives.

This idea of frequent changes in the apiary, as regards hives, fixtures, etc., is damaging to our pursuit. The old adage, that "A rolling stone gathers no moss," is as true here as anywhere. He who thinks that it is necessary to pay out half of the income from the apiary every year in the changing of fixtures, so that he may be up with the times, is certainly laboring under a mental abnormity. If any one has the necessary resources, so that he can go into all of the new-fangled arrangements as they come up, without injury to his family or those about him, he has a perfect right to do so; but the impression that seems to obtain, that all must do this, is not right, and the sooner it is frowned upon, the better for the world, and the better for our pursuit.

Borodino, N. Y.

CHLOROFORM

As a Prevention of Increase—Introducing Queens, etc.

Written for the Canadian Honey Producer

BY W. H. KIRBY.

During the past season many articles have appeared in the various bee-papers, written by some of the most extensive and most experienced bee-keepers of the day, on the important subject, "The prevention of increase in working for comb honey." The sum and substance of all that has been written is to give plenty of room to a colony to prevent them getting the the swarming fever, and the vigorous use of the extractor to deprive them of the swarming fever after they once get it.

In my opinion, prevention is better than the cure, by a long odds. This extracting of nice sealed honey out of the brood-nest (which makes the best of winter stores) is something I could not tolerate, to say nothing about the extra work for nothing, when a much easier and simpler method will do.

The swarming fever appears to be, and is, the great trouble to get over when the bees once get it. The best, the easiest, the quickest, and the cheapest way to cure that fever is by the use of chloroform, given to them by the smoker, just at dark when the bees are nearly all in the hive—to be given to them until they lie like dead bees upon the combs, or until not a bee will fly when the honey-board is taken off and the hive kicked.

Two years ago last June I treated a colony just as I have described. They had their first queen-cell capped, and would have swarmed the next day. The morning after drugging they went to the fields as usual, apparently none the worse for the dose. Upon examining them in the evening, 24 hours after the drugging, the queen-cell was still intact. Forty-eight hours after drugging, I examined them again, and found the cell still intact, and no further progress had been made on any of the other queen-cells.

They had one case of sections on. I then took away all finished sections, and filled up again with sections containing full sheets of foundation. Seventy-two hours after drugging, I examined them again, and found the cell torn to pieces. About a week after this I gave them another case of sections; there was a steady, moderate yield from the raspberry during this time. This colony gave me about 50 pounds of nice finished sections that season.

The above experiment convinces me that chloroform is the specific.

When a swarm issues, put it back, take away all finished sections, and fill up again, and give room enough for all the bees to work; then give them a good drugging in the evening. Before morning they will get rid of the effects of the drug, and will have forgotten, or given up all notion of swarming, and go to the fields to gather nectar and pollen as usual the next day. I find chloroform very useful in the apiary.

In introducing queens not a queen need be lost. Also in the uniting of colonies, not a bee will be lost from fighting excepting one of the queens. Also in moving bees about the apiary, set them anywhere, and in the evening give them a dose. In the morning they will be seen marking their location as they fly out, and will return to it, they having forgotten all about the old one. I suppose ether would do as well as chloroform, although I have never used it.

In all cases the drugging should be to a stupor, except in introducing queens in a honey flow, when very little or none is needed. Objections may be taken to the use of anaesthetics in the apiary, on the ground of their being injurious to the bees. My observation has been very close, and so far I have not been able to detect any difference. Twelve hours after a colony has been drugged, they will be as brisk as ever. As a proof of this, take a queenless colony in the fall that is being robbed by wholesale, no defense being made at all; drug in a

queen in the evening, and in the morning watch and see how the inmates will shoot up off the alighting-board at the robbers as they appear.

The foregoing remarks are from my own observation and experience. My theory for the prevention of increase in working for comb honey originated with myself (never having seen any thing written on the subject).

I only tested it on one colony; but I have no doubt but what chloroform will prove effectual every time if properly used. I do not need to prevent increase as yet, because I am working up an apiary from a small beginning, but if the time ever comes that I shall need to, chloroform is what I shall use to accomplish my purpose.

Oshawa, Ont.

BEE-NOTES.

Items of Interest about California Bee-Keeping.

Written for the American Bee Journal

BY S. L. WATKINS.

Bees have ceased working for the season, as all kinds of bloom have ended. The foliage of the surrounding forests has begun to exhibit the hues and tints of autumn. The birds have gone further south for the winter. The air is no longer gladdened by the sound of myriads of insect wings.

Bees Ready for the Winter.

The honey-bees are now housed up for winter, and every three or four days they go out for a flight, and circle around for a while, but soon return to the hive. The breeding season has now passed, although some colonies with extra prolific queens have a few square inches of brood. All careful apiarists have prepared everything for winter, covering each hive with a roof to shed winter rains and snow, and giving colonies that are in need of stores, sufficient to winter on, etc. Bee-keepers can now take a few days' rest preparatory to getting ready for another season's work.

Races of Bees vs. Location.

It has been proved conclusively that the Italian bee is superior to the black or brown bee, for honey-gathering in most locations. Having three different apiaries located twelve miles apart, respectively, I have a good chance for observation and study on this subject. I find that at an elevation of 4,000 feet and upwards, the black bee equals the Italian, or any of the yellow races; while at an elevation of 1,000 to 4,000 feet, the yellow races do the best.

Crossing Italians and Carniolans.

I find that a cross between the Italians and Carniolans give the best results when working for comb honey at any of the apiaries. A few miles make a great change in bee-locations. For instance, if it is a very wet and rainy season, the foot-hill apiary will do the best, and if it be a dry season, the mountain apiaries do the best. Such has been my experience the last few years.

At the mountain apiaries there is continual bloom from the middle of February to November, keeping the bees busy the entire season. In the foot-hill region the honey season ends in July. I was always bothered a great deal by robber bees in the latter location. After the honey season ends, and the hot weather comes on, bees dwindle down rapidly. I lost several colonies of Italian hybrids and black bees the past season. They would not protect themselves against robber bees. The Carniolan bees did not participate in the robbing, and not a single colony of them was robbed. They are second to none in defending their hives against robber bees. In the mountains I have no trouble whatever with robbing.

Placerville, Calif., Dec. 4, 1888.

ITALY.

A Visit to the Queen-Breeders of Italy.

Written for the British Bee Journal

BY T. B. BLOW, F.L.S.

The many controversies which have arisen during the past with respect to the merits or demerits of the Italian bees, induced me, in the interests of British bee-keeping, to pay a visit to the north of Italy, to study them in their native habitats, and to come to some decision as to their qualities as compared with other races, and more especially with the English bees.

Those who have carefully noted the published accounts of the Italian bees from their first introduction will remember the surprising successes that were years ago achieved; and I could call to mind several who have kept Italians for many years, and still hold that they are far ahead of the blacks. The Americans, too, quite upheld this opinion, and hold it strongly still.

Carefully considering these facts, I was led to think that the root of the evil, and the reason of the many grievous complaints that have lately been made, might lie in the inferiority of the queens imported during the last few years. Those who years ago went in strongly for Italians (and have succeeded), usually kept in stock by breeding from the best, rather than by constantly importing queens. And the same method obtains in America, where most of the Italians are home-reared—not imported—and I think it will be admitted on all sides, that, as far as scientific queen-rearing is concerned, the Americans stand at the head of the world, though the successful persons in England, that I allude to, are individually equal.

To get the best results we ought, undoubtedly, to import the finest queens, and then to rear the best from them here, keeping up the stock with occasional importations, perhaps. In this way we can perpetuate the best features of the race, and at the same time get bees that are perfectly acclimatised. For it is an admitted fact, that the bees, the immediate progeny of imported queens, are far more liable to disease—especially diarrhea—than are the progeny of a home-reared Italian. And, with the facilities which modern bee-keepers have, there is not the least difficulty in getting the home-reared queens purely mated, and thus practically keeping our strain pure, if absolute purity is desirable.

The complaints made by those dissatisfied with Italians are: 1. They do not winter well. 2. As honey-producers they do not equal the English bee. 3. That they are very vicious and unmanageable. 4. And lastly, some have asserted that a very virulent form of foul brood has been introduced by them. From an examination (extending over a considerable time) of many apiaries, I have come to the conclusion that most of the evil repute that has fallen upon Italians has been brought about by the inferior queens sent. In some cases the breeders know nothing about their business, and procured the cheap queens which are sent so freely in the autumn, by going around and collecting them from the colonies condemned by the country people to be taken up for the honey; they get these and the bees for about a franc each.

By this system many queens would be quite old and worn out, others unfertilized, and therefore drone-breeders; and in a district where foul brood occurred, of course the disease would go with the queens, and disastrous results would follow by its introduction into the apiary of the unsuspecting British bee-keeper. I have in my mind's eye one case of a well-known cottage bee-keeper, whose apiary was utterly ruined by the introduction of foul brood by Italian queens. This system of getting queens from condemned bees, I saw in full swing in many cases (in one case by the servants of a well-known exporter); the

time of year being most favorable for this practice, and I certainly saw several fine examples of foul-broody combs.

In other apiaries no trouble seemed to be taken with the quality of the queens, such as selecting the best queens to rear progeny from, nor was any attention paid to the rearing of drones from suitable colonies. These great considerations were quite neglected; the great point seeming to be, the largest number of queens in the shortest possible time, and with the least trouble; and, as far as I can judge, many were sent off without it being definitely known that they were fertilized, and I feel sure that some such queens arrive in England, and are here fertilized, as, in the course of my experience as an expert, I have had shown to me many colonies of bees that I was assured were the progeny of an imported queen, but were certainly hybrids.

My visits to apiaries extended over the country between Bellinzona and Montselice; this embraced the mountainous district of the northern Italian lakes, and the plains of Lombardy, and again the hilly country around Bologna.

I may say at once that I certainly prefer the bees from the montains, as they seem much more vigorous and hardy; and the results in the way of honey-gathering, as far as I could get at the facts, were certainly far better. The bees from these hilly parts would, too, be better suited for our climate. The number of apiaries visited was large, yet I can count upon my fingers of one hand all those who knew anything about their business; and if those who took a real pride in the production of their queens, and who use really scientific means to insure the best results, then the number would certainly be less than five.

I shall describe the apiaries of the best of these, and their methods; but before doing so, will give the conclusions which I have come to with regard to Italians: That, excepting perhaps Carniolans, there are no better bees than Italians if care is taken to get the best queens from a breeder of recognized merit.

That the bees of the mountains are hardy, vigorous workers, great honey-gatherers, prolific, and certainly gentle, and in their own country not given to robbing much.

That to get the best results from Italian bees, we must get a good strain to start with, and then, by careful selection, rear our own queens, and be constantly on the look-out for those having the most desirable characteristics, and to propagate from them only.

I can name one very striking case in my own country, where all these points have had most careful attention given to them, and with the result that the bee-keeper is not only the best in the country, but one of the best in England, as far as results go; and practical results (the largest amount of honey, of the highest possible quality, got with the least expenditure of labor on the part of the bee-keeper), are what we require in this age of keen competition.

The first apiary which I visited belonged to Jean Pometta, and was on the hills above Gudo, near Bellinzona. He had promised to meet me at Bellinzona station; but on account of the breakdown of the telegraph wires, owing to a heavy fall of snow, he failed to be there. However, it was not much trouble to find him. Everybody whom I asked was able to direct me to the man who had a lot of bees; and after a most picturesque walk of two or three miles I arrived at his home, in the midst of vineyards, and with a waterfall close by, which would have made the fortune of any man in England who possessed it.

He was from home; not having got my telegram he did not expect me. I had a chance, therefore, of looking at his apiary at my leisure, and without any interruption, which is an advantage. His father (a venerable old man) received me in a very hospitable manner, and, as Mr. Pometta is a vineyard-owner as well as a queen-breeder, I was able to see all the vintage operation in full swing. I may say that he takes pride in his wine products as well as in his bees; and he showed me with great interest an ancient-looking, squat flagon of Aqua Vitæ, very old, of his own distilling, that had taken the gold medal at Zurich.

I found an immense number of colonies of bees, many of them in bar-frame hives with straw sides; the majority of them on the Italian plan, opening at the back, and iron tongs being used to remove the combs. There were, too, a large number of nucleus hives, with bar-frames lifting out in the ordinary way. The bees were the leather-colored strain, not the bright colored bees such as I saw later on in Lombardy. To show their energy, I may mention that Mr. Pometta told me that they are usually at work at six in the morning, and that on one or two occasions he actually saw them work by very bright moonlight. We have heard this same story from the Americans, and I fear every one has doubted it.

On Mr. Pometta's return we looked through many colonies, and I had explained to me his whole system of queen-rearing.

The system used of rearing queens depends upon the time of the year. In the early spring (when loss of heat must be much guarded against) a colony is taken, and, by means of three dummies, is divided into four nuclei, the hive being made with four entrances for this purpose. In this way five queens are secured from one colony, and though the system is a somewhat wasteful one, yet it answers, as the price obtained for queens in early spring is comparatively high. Another plan is to preserve a large number of small colonies with young queens in the autumn. In the spring two or three of these can be united, and one strong colony formed, and the surplus queens sold.

As the season advances, the nucleus hives are used; each nucleus being large enough to be again divided into two. By this plan better queens can be reared, and in good quantity too. The bars of these are of just such a size that two will fit into the large bars of the Italian hives. This, of course, is of great service to the queen-rearer in many ways, such as making up nuclei for queen fertilization, and afterwards for strengthening such with hatching brood.

SEASON OF 1888.

Report of a Summer's Work with the Bees.

Written for the American Bee Journal

BY GEO. W. STEPHENS.

I caught the "bee-fever" away back in the '70's, and have never been cured. I once owned a number of colonies, but about eight years ago, during a long and severe winter, when so many bees were lost all over the country, they took sick and died of that most fatal disease, neglect.

I began again last spring with 2 colonies of black bees—one in a Langstroth hive, and the other in an American hive. I transferred them by driving, to a hive that is used by a prominent apiarist of this State, but which has not yet been named. The hive is of about the capacity of a cracker-box in length, breadth and thickness.

The spring was cold and rainy, and the conditions were such that the spring blossoms yielded no nectar, and my bees gathered no honey until about July 4; in fact, by that time they had consumed all of their winter stores, and although I had fed them some, there was not at that time a pound of honey in either hive. The same could be said of all the bees in the neighborhood. I kept my bees in the same yard with Mr. Hawk's 20 colonies, which were worked on shares

by Mr. Wheeler, and we helped each other occasionally in manipulation, etc.

Cross Bees and their Stings.

The bees were pretty cross from the time they were put out in the spring until basswood bloomed, and we were the victims of a good many stings. I think I received about thirty stings during the summer, and Mr. Wheeler's average was somewhat higher, he being a large man and not a very swift dodger. My greatest trouble was, that the bees persisted in crawling up my pants' legs; contrary to the good advice in the books, however, I invariably made a quick motion about that time and escaped a sting—the bee generally died, and—Mr. Wheeler laughed. I find that is one great fault with the black bees; upon lifting a a comb, if the weather be a little cool, they will scatter like a flock of sheep, alight upon the ground, and then crawl up one's pants' legs.

But for all the bees were so cross during the spring and early summer, I can truthfully say that I never once while handling them, put on a pair of gloves. Gloves are awkward and clumsy things to handle bees with; they are hard to get on and off, and in many ways hinder the movements of the operator; and besides, an angry bee can easily sting through a pair of dog-skin gloves, as I saw them do repeatedly last summer. I just used my last winter's mittens; they were thick and heavy, having been built for cold weather, and no bee could make its presence felt through them.

When basswood bloomed, about July 4, the bees filled their brood-chambers in about a week; then basswood ceased, and we got no more honey until the latter part of August and September, when the golden-rod, asters and heart's-ease bloomed. Then the sections began to fill up, and in the fall we took off some of the nicest "digested nectar" that ever was gathered, averaging about 40 pounds of comb honey to the colony, spring count, in one-pound sections.

It is a very fine quality of honey, heavy, fine flavored, and not dark in color. But the bees got all the basswood honey in their brood-chambers, and as I had no extractor, and did not care to bother with strained honey, I put into the cellar, on Nov. 27, 2 strong colonies with about 75 pounds of honey each, and a couple of weaker colonies, built up from nuclei, with about 25 pounds each. I expect by "this method" to get the basswood honey next season "in this section."

My bees did not swarm during the season, and Mr. Wheeler had but 2 or 3 swarms from his 20 colonies. I Italianized one colony, and next season I will keep none but Italian bees. All the bee-keepers around here that I have talked with, are going to Italianize their bees. Most of them have blacks and hybrids, and one man has "high breds" in "Longtrough hives." He can take out a "sash" of honey whenever he wants it.

Denison, Iowa, Dec. 3, 1888.

MAPLES.

What do the Bees Gather from the Hard Maples?

Written for Gleanings in Bee-Culture

BY MAHALA B. CHADDOCK.

How much honey do bees get from the hard maple? We have them in our dooryard, and they were in bloom last spring for two weeks, and the bees fairly roared about them. I watched them at work, and it seemed to me that they did not stay long enough at one blossom to suck nectar from it, but just rolled and tumbled the stamens about as though they were hunting for something that they never seemed to find; then on the wing a moment, twisting their legs together in a most frantic way, then to another cluster, and the same hurrying-scurrying motions.

They worked on the maples only when the days were warm. On coolish days they flew away somewhere and came back—some of them with a differently-colored pollen on their legs, but the most of them with nothing on them. They came to the well for water, and it seemed to me that, if pollen was all that they got from the maples, they might as well be working away at them.

I see, in examining the stamens of different flowers, that there is a white, sticky substance on the most of them, wound carelessly around the pollen-grains, something as an ear of corn might look after being thrust through a thin spider-web. Now, is this sticky substance propolis? and do the bees get some of it out of flowers if they want it? If this sticky substance is propolis, it would be easy to see why bees gather pollen better on warm days than on coolish ones.

This substance is very tenacious. A thread of it will lift half the pollen on one stamen—a thread that is invisible to the naked eye. I killed a few bees as they attempted to enter the hives. Only one of them had honey in the honey-sac, and I am inclined to think that it was old honey that the bee had carried from the hive. But finding no honey in the bees would not prove that the maple-blossoms contained no honey. They might yield enough to make the pollen stick together, and still the bees have none to carry home in her sac. So with what I have investigated as to whether maple-blossoms yield nectar, I have concluded that I do not know. Is the nectar ever in the stamens? It seems to me that the tube, or cup, that all flowers have, is the place for the nectar.

I like to look at flowers under the magnifier. The most dull and insignificant flowers are then gorgeous and beautiful. The currant, gooseberry, sassafras and maple are all interesting. But the most delicate and beautiful of all that I have seen is the cherry. The petals look as if one could almost see through them, while the many stamens spread every way.

Nature seems to be very free with her stamens, placing them not only where they are needed, but also where they are not needed. I find that the maple-blossom has eight (or seven) stamens protruding from its bell-shaped flower. No more are to be seen anywhere; but in some days—a week perhaps—when the wings are half grown, if we turn down the husk that was once the flower, we find six more stamens, with anthers bigger and more full of pollen than any of the eight that protruded from the flower. These six stamens are useless. No bee, no insect of any kind can get to them to carry the pollen away, and the seed in the seed-pod is much too far along to need pollen.

Vermont, Ills.

EXPERIMENTS.

When to Put Bees into the Cellar, etc.

Written for the American Bee Journal

BY A. C. WALDRON.

An experience of two years makes me more enthusiastic than ever in my chosen pursuit, having gone beyond my own expectations. I started with 2 colonies, increased them to 8, lost one, bought 5 more last spring, and now I have 58 colonies, all in good condition, so far as I know. Perhaps I ought to say that I bought 3 Italian queens during the time of working for increase. I have had no large yield of honey, although that has been satisfactory. My bees are now in the cellar, with the exception of one colony, which is on the summer stand, in a single-walled hive.

I am experimenting a little in regard to the time to put bees into the cellar, and also in regard to ventilating the hives in the cellar. I weighed nearly all of my hives on Sept. 21, and on Nov. 14 to 16 I put them into the cellar, weighing them again. The loss

was from 1 to 10 pounds, or an average of about 7 pounds. One colony had gained one pound. I expect to weigh them again in the spring, and give the results.

In using full sheets of foundation in the brood-chamber, I find it difficult to keep them from warping, even in wired frames. I have been more successful with starters of thin foundation. I also prefer starters in sections.

In what little experience I have had with cellar-wintering of bees, I think that we have more to fear from a too low temperature than from a too high one, unless the cellar is very dry. My experience would say that from 42° to 50° is better than lower. One thing I do know, and that is, that moisture enough to cause water to gather on the hive-cover, is not good.

Buffalo, Minn., Dec. 11, 1888.

SPRING WORK.

Manipulating Bees in the Spring of the Year.

Written for the Canadian Honey Producer

BY G. W. DEMAREE.

It is well to know how to winter bees successfully, how to obtain increase of bees in the way of stocking up the apiary, etc. But if the apiarist lacks the necessary knowledge and experience in spring management of his bees, he will discover after awhile that the chances for the best results have been slipping through his willing fingers, and from under his faulty judgment without his knowing the true cause of his partial failures.

One of the important things to learn is, that what suits some other locality may not suit yours. This matter of "locality" is one of the things upon which no apiarist can depend on some one else who occupies some other locality, for definite information as to what is best for his particular case. Hence it is essentially necessary that each apiarist for himself, should study every feature of his own environments, his climate, honey-producing flowers, at what time in the season they blossom, how long they continue to yield nectar, etc.

Let me illustrate here: Some years ago when I was just beginning to see the necessity of this sort of knowledge, I left home on Monday morning early in May. I had been with my bees almost daily for two weeks past, and they were living from "hand to mouth," just barely getting enough honey from late blooming trees, etc., to keep from actual want; in fact I was compelled to feed some of the weaker colonies. I attended court that week, and did not see my bees until the following Saturday morning. The first hive I opened was one that I had been feeding, and did not have one pound of stores when I left home just five days before. I found it full of honey from top to bottom, I hastened to another hive, and to another, not willing to believe my own eyes, every hive in the apiary was jammed full of honey, and I never knew how much I lost by not being on hand to furnish what room the best colonies needed. The black locust had come into bloom, and poured out nectar as free as water, outstripping the famous linden before Kentucky was denuded of her wonderful forests. How necessary then it is to be thoroughly posted in regard to these matters.

Perhaps I have mentioned this incident before, whether or not, it is to the point here. Some years ago a neighbor of mine took up bee-keeping, and on one occasion he met the writer and said, "It is about time to put on the surplus boxes, is it not?" *The surplus* boxes! I replied, why, sir, I have taken a large honey crop, and the harvest is about over. You can put them on, but you have lost this year. He was perfectly astonished.

Spring Work in the Apiary.

If the bees have stores to last them until the blossoms begin to open in the spring, they should be left undisturbed till they begin to gather pollen. Any warm day thereafter, each colony should be examined, and all upward ventilation should be closed. To accomplish this I spread some newspapers between the quilts, and cover warmly above the brood department. All very weak colonies are contracted on but few frames, and they are made as comfortable as possible. If the colonies have plenty of stores, stimulative feeding is not resorted to, as I have received but very little benefit from my experiments in that direction. But if the bees are scarce of stores, they will not breed up rapidly without some feeding.

After giving the matter a fair trial, no "spreading of brood" is practiced in my apiary. It is a positive injury to a colony of bees to break the nest *early* in the spring, as advised by some writers on bee-culture. When colonies have been contracted on less than a full set of combs, the combs are restored to the bees as fast as they need them, but they are placed at the sides next to the brood, not between combs of brood as practiced by some apiarists. I am now speaking of the early spring. When warm weather has come in earnest, the empty combs may be placed between the combs of brood without doing any harm.

Approaching the Honey Harvest.

I keep a close watch over my bees, and supply them with food if any of the colonies run short by reason of rapid breeding. When I discover that a colony has begun to lengthen the cells near the tops of the brood-combs, giving them the "gilt-edge" appearance so pleasing to the eyes of the apiarist, being the first real sign of the approaching honey harvest, I proceed at once to adjust the surplus cases on the hives, and as others are ready the surplus cases are put on, till the whole apiary is equipped for the campaign. As soon as the surplus cases are about two-thirds filled with honey, they are raised, and an empty case is adjusted under each one of them. Usually the top case will be ready to "take" by the time the lower one is two-thirds full; if not, a third case is used.

Tiering Up.

After this I proceed cautiously, so as not to carry the "tiering up system" too far, and thereby have too many unfinished sections at the close of the honey harvest. To guard against this, as soon as the facts appear that the main flow of nectar is past, I begin to tier downward, that is, I begin to concentrate the work in the surplus cases by sorting out such sections as have been advanced most, and grouping them together in fewer section cases, in order to have them finished up instead of permitting the bees to neglect the partly filled sections and start new work to be left unfinished at the close of the honey harvest. By this management not many unfinished sections are left on hand at the close of the season.

Chistiansburg, Ky.

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ The annual meeting of the Ontario Bee-Keepers' Association will be held at Owen Sound, Ont., on Jan. 8 and 9, 1889. W. COUSE, *Sec.*

☞ There will be a meeting of the Susquehanna County Bee-Keepers' Association at the Court House in Montrose, Pa., on Saturday, May 4, 1889, at 10 a.m. H. M. SEELEY, *Sec.*

☞ The annual convention of the Vermont State Bee-Keepers' Association will be held in the Court House at Middlebury, Vt., on Tuesday, Jan. 15, 1889. MARCIA A. DOUGLAS, *Sec.*

☞ The annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in the Supervisors Room of the Court House at Rockford, Ills., on Jan. 15 and 16, 1889. D. A. FULLER, *Sec.*

Money in Potatoes, by Mr. Joseph Greiner. Price, 40 cents, postpaid. This is a complete instructor for the practical potato-grower, and explains the author's new system in 40 interesting lessons. It is for sale at this office.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Dec. 29.—Brant, at Brantford, Ont.
R. F. Holtermann, Sec., Brantford, Ont.

1889.
Jan. 8, 9.—Ontario, at Owen Sound, Ont.
W. Couse, Sec., Streetsville, Ont.

Jan. 9-11.—Nebraska State, at Lincoln, Nebr.
J. N. Heater, Sec., Columbus, Nebr.

Jan. 15.—Vermont State, at Middlebury, Vt.
Marcia A. Douglas, Sec., Shoreham, Vt.

Jan. 15, 16.—N. W. Ill. & S. W. Wis., at Rockford, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

May 4.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Report for the Season.—Mr. R. J. Mathews, Riverton, Miss., on Dec. 4, 1888, writes:

The past season was worse for me than the one previous, but I did tolerably well, taking the bad season into consideration. I commenced the season of 1888 with 20 colonies, increased them to 29, and secured 1,269 pounds of comb honey in one-pound sections; 786 pounds of extracted honey, and 26 pounds of beeswax. All the colonies have plenty of stores for winter.

Successful Bee-Keeping, etc.—Ezra J. Cronkleton, Dunlap, Iowa, on Dec. 7, 1888, writes:

My bees did very well the past season, considering that it was such a poor one. From 40 colonies I obtained 2,800 pounds of comb honey in one-pound sections, an average of 70 pounds per colony. It is the lightest crop that I have had in the five seasons that I have been engaged in the business. My increase was 10 colonies. My bees are all tucked away in the cellar, the hives full of stores, and not in debt to me a cent. I do not remember of ever losing a colony of bees in wintering, and have had no spring dwindling—in fact the word "success" expresses my situation ever since I embarked in the bee-business. Honey is selling readily here at 18 cents per one-pound section. The weather is fine here, with no snow yet. Corn is all gathered, and the crop is immense.

Poor Yield of Honey.—S. M. Cox, Angola, Ind., on Dec. 7, 1888, says:

One year ago I had about 85 colonies of bees, about 30 of which failed to winter, mostly from lack of stores. During the winter I moved to Angola, a distance of about 12 miles, and about June 1, I moved 24 colonies, with the loss of one. I left the rest on the farm, and let them out on shares. I got less than 50 pounds of surplus honey, and a good many of the colonies will starve this winter, although there were several fields of Alsike clover, and considerable basswood near them. The bees that I brought here stored about 300 pounds of surplus comb honey, and cast 10 swarms. I have 26 colonies in the cellar now, the rest being on the summer stands. I think that we will have more white clover next season than we had this year.

Honey Jumbles—Fall Honey-Flow.—O. P. Miller, Glendon, Iowa, on Dec. 5, 1888, writes:

I notice on page 787, an account of a young man selling seven barrels of honey jumbles at the Columbus Exposition. I would be pleased to have a recipe for making them published in the BEE JOURNAL. People here think that honey is not worth anything to cook with. The honey season in this vicinity was very poor until the very last. About the time we thought the "jig was up," the bees commenced work, and in 16 days they stored 62 pounds of surplus honey to the colony. One of the strongest colonies in this time stored a little over 100 pounds of surplus honey in three weeks. I practice the tiering-up system with full-sized Langstroth frames, for other reasons aside from the production of honey.

[Just show your neighbors who think that honey is not good for cooking, copies of "Honey as Food and Medicine." Perhaps Bro. Root will supply the formula for making the honey-jumbles.—ED.]

No Fall Honey Crop.—R. B. Woodward, M. D., Somerset, O., on Dec. 10, 1888, writes:

My bees wintered last winter without loss. I had 15 colonies to begin with; one queen would not lay on account of old age, and one died from an unknown cause, which left me 13 colonies. From these I secured 400 pounds of honey, about one-half being comb honey. I had to put back in unextracted frames 100 pounds, and had to feed about 50 pounds of sugar for winter purposes, leaving about 250 pounds net, of surplus honey from 13 colonies. I increased them to 18 colonies, which are now in good condition on the summer stands, and wintering well thus far. My bees gathered nothing after August, yet the fields were yellow with golden rod, and waste land was full of asters; but it was too wet and cold. My best colony produced 36 pounds of extracted apple-bloom honey, which was very good.

Bees in Good Condition.—L. B. Graves, Nineveh, Ind., on Dec. 10, 1888, says:

The honey season has not been good for three years. Last spring I had 5 colonies which I increased to 7, and took about 150 pounds of comb honey. All are in good condition for winter. My best colony produced 48 pounds of honey, besides about 15 pounds in two boxes not finished. Some of my neighbors got about the same as I did, while three miles east and north they got no honey, and had to feed their bees for winter. I can speak for only a few, as I am not posted very far from home.

Predicts Successful Wintering.—Mr. J. W. Bittenbender, Knoxville, Iowa, on Dec. 11, 1888, writes:

Bees in this locality are all in their winter depositories, with plenty of good, ripe honey to winter on, and, as far as I can tell, I predict that of all colonies properly prepared, 95 per cent. will winter; and as far as I can ascertain from my correspondence, bees are all in good condition in Iowa, Nebraska, Missouri and Kansas. The outlook seems to indicate a good season for 1889. White clover never was in better condition at this date. We have had but very little cold weather, no snow on the ground, and farmers are plowing yet.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lbs., 18@19c.; 2-lbs., 16@17c. Good dark 1-lbs., 15@16c.; 2-lbs., 13@14c. Buckwheat 1-lbs., 14@15c.; 2-lbs., 12@12½c.—Extracted, 7@9c, depending upon quality and style of package. Receipts increasing, but demand still limited. Stock is not selling as freely this season as a year ago.
BEESWAX.—22c.
Nov. 13. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—It is selling fairly well at 18c. for best 1-lbs.; very fancy lots have sold at 20c. Dark and yellow comb sells slowly at 13@16c. Extracted, 7@9c., according to quality and style of package. The stock of best comb honey is light.
BEESWAX.—22c. R. A. BURNETT,
Nov. 22. 161 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 18@20c.; 2-lbs., 16@18c. Good dark 1-lbs., 16@18c.; 2-lbs., 15@16c.; fair 1-lbs., 12½@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9@9½c.; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.
BEESWAX.—22@23c.
Oct. 25. A. V. BISHOP, 142 W. Water St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 15@17c. 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.
BEESWAX.—23½c.
Sep. 17. THURBER, WHYLAND & CO

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 16@17c.; 2-lbs., 13@14c. Fair white 1-lbs., 14@15c.; 2-lbs., 11 to 12c. Buckwheat 1-lbs., 11@12c.; 2-lbs., 10c. White extracted, 8@9c.; buckwheat, 6@7c. Demand good for white 1-lbs. and buckwheat 1 and 2 lbs., of which the stock is light. Good stock of white 2-lbs., with but little demand.
BEESWAX.—22½@24c.
HILDRETH BROS. & SEGELKEN,
Nov. 24. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@12½c.; 2-lbs., 12@14c.; amber, 8@10c. Extracted, white, 6½@6¾c.; light amber, 6c.; amber and candied, 5¼@5½c. For comb honey the demand is light; for extracted it is good, and market firm.
BEESWAX.—Dull at 18@22c.
Nov. 15. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white 1-lbs., 16@18c. Supply is not large, but equal to the demand.
BEESWAX.—22@23c.
Dec. 12. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb. Best white comb honey, 16c. Demand slow.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Nov. 12. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.
BEESWAX.—None in market.
Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½c. California white in 60-lb. cans, 8c.; light amber, in same cans, 7½c.; amber, 7¼c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.
Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote: Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The sales are good, and indications are that all the honey in the country will be cold by Feb. 1.
Dec. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs., 16@17c.; fair, 14@15c.; California white 2-lbs., 14@15c.; amber 2-lbs., 12@13c.—Extracted, white California, 7½c.; amber, 7c.
BEESWAX.—None in the market.
Dec. 11. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote: Extracted in barrels, 5@6c. according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.
BEESWAX.—21c. for prime.
Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6⅛ cents; light amber, 6@6½c.; amber, 5½c. Comb, white 1-lbs., 13@14c.; 2-lbs., 13c. Light amber 1-lbs., 12@13c.; 2-lbs., 11@12c. Demand very active for extracted, and fair for comb honey.
BEESWAX.—20@21c.
Nov. 6. SCHACHT & LEMCKE, 122-124 Davis St.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

Pure Phenol for Foul Brood.—Calvert's No. 1 phenol, mentioned in Cheshire's pamphlet on pages 16 and 17, can be procured at this office at 25 cents per ounce. Not being mailable, it must go by express.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Yucca Brushes, for removing bees from the combs, are a soft, vegetable fiber, and do not irritate the bees. We supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

A Home Market for honey can be made by judiciously distributing the pamphlets, "Honey as Food and Medicine." Such will create a demand in any locality at remunerative prices. See list on the second page of this paper.

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

Photographs of Bee-Keepers.—The "medley" gotten up by E. O. Tuttle, containing the faces of 120 representative apiarists, and a printed sketch of each one, will be sent with the BEE JOURNAL for one year for $1.75; or we will present it *free*, by mail, to any one, for a club of three subscribers and $3.00.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club*
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 65
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

International Bee-Convention.—The Pamphlet Report of the Columbus, Ohio, Convention is now issued, and copies have been sent to each member, as well as to the Colleges, Agricultural and Horticultural Societies and periodicals devoted to the industry. Copies can be obtained at this office, by mail, postpaid, for 25 cents. This pamphlet contains the new bee-songs and words, as well as a portrait of the President. Bound up with the history of the International Society, and a full report of the Detroit, Indianapolis and Chicago conventions, for 50 cents, postpaid.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

The Date on the wrapper label of your paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to carry the date another year ahead.

Honey.—We have for sale a quantity of Extracted Honey in kegs holding about 220 pounds each, which we are selling, free on board the cars, at **8** cents per pound for Amber and **9** cents per pound for White.

New Subscribers can obtain the full numbers for 1888 and 1889 for $1.80, if application be made at once, before all the sets of 1888 are gone.

In order to pay you for getting *new subscribers* to send with your renewal, we make you this offer. For each yearly subscriber, with $1.00, you may order 25 cents worth of any books or supplies that we have for sale—as a **premium.**

We Supply Chapman Honey-Plant **SEED** at the following prices: One ounce, 40 cents; 4 ounces, $1; ½ pound, $1.75; 1 pound, $3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Please to get your Neighbor, who keeps bees, to also take the AMERICAN BEE JOURNAL. It is now SO CHEAP that no one can afford to do without it.

We will Present a Pocket Dictionary for two subscribers with $2.00. It is always useful to have a dictionary at hand to decide the spelling of words, and their meaning.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

Red Labels for Pails.—We have three sizes of these Labels ranging in size for pails to hold from one to ten pounds of honey. Price, $1 for a hundred, with the name and address of the bee-keeper printed on them. Smaller quantities at one cent each; but we cannot print the name and address on less than 100. Larger quantities according to size, as follows:

	Size A.	Size B.	Size C.
250 Labels	$1.50	$2.00	$2.25
500 Labels	2.00	3.00	3.50
1,000 Labels	3.00	4.00	5.00

☞ Samples mailed free, upon application.

Simmins' Non-Swarming System.—We have a few of these books left, and we will club them with the AMERICAN BEE JOURNAL for one year, both postpaid, for $1.25. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

Cork for Winter Packing.—Its advantages are that it never becomes *musty*, and it is *odorless*. Cushions can be made of cloth and filled with the cork, for winter packing. We can supply all orders now at 10 cents per pound. Or a seamless sack of it, containing 15 pounds, for $1.00.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Melilot or Sweet Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

Hastings' Perfection Feeder.—This excellent Feeder will hold 2 quarts, and the letting down of the feed is regulated by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

Advertisements.

TAKE NOTICE.

BEFORE placing your orders for SUPPLIES, write for prices on One-Piece All-White Basswood SECTIONS, planed on two sides, making them the finest Sections made. ☞ Other SUPPLIES to correspond. Address,

R. H. SCHMIDT & CO.,
47A26t NEW LONDON, Waupaca Co., WIS.
Mention the American Bee Journal.

To Every Lover of Good Reading :

DEAR FRIEND :—Mr. will C. Turner, the well known Publisher and Managing Editor of the CITY AND COUNTRY, that excellent 16-page monthly magazine published at Columbus, O., has recently made an offer in connection with his publication which should certainly be accepted by you. CITY AND COUNTRY has been regularly published at the rate of $1.00 per year, for the past seven years. Mr. Turner is anxious to increase his already large circulation within the next three months to 50,000 regular subscribers more,

To accomplish this purpose, believing that every subscriber will, at the expiration of their subscription, renew for one year, he has devised the following plan :

Every person desiring to become a subscriber to CITY AND COUNTRY, which, by the way, contains each year *four to five continued stories, thirty to forty illustrations in each issue, and a large amount of interesting reading*—especially so to the ladies—is requested to carefully and plainly write out two complete copies of this letter, and sign your name at the bottom after the word "Per"——. These copies must then be mailed by you to two of your friends or acquaintances in some other town or locality, who are thereby requested to do just as you have done, viz : Write two copies and send to two of their friends, and so the work will go on and on. After mailing the two copies, the original letter which you copy from, together with a slip of writing paper, cut the size of a postal card, with your address plainly written on one side, and the addresses of the two to whom you have sent the copies on the other side, and **TEN CENTS IN SILVER** must be enclosed in a letter and mailed to Will C. Turner, Columbus, O. On the receipt of these you will be placed on the subscription list for 3 months, the copy for the present month will be promptly mailed, and also, which is the greatest reason why you should accept this offer, *five complete novels* in pamphlet form will be sent you by mail, postpaid, which would *regularly cost one dollar each* if bound in cloth. Do not let the opportunity pass, as Mr. Turner only proposes to let this offer stand for a short time. True, it requires some time and work to copy all this twice, but you will be most handsomely rewarded for it.

[Signed,] WILL C. TURNER.

Per .....

50A3t

EXTRACTED HONEY
FOR SALE.

WE have a Large Quantity of CHOICE **EXTRACTED HONEY** for Sale, in kegs holding about **220 pounds** each, which we will deliver on board the cars at **9 cents** per pound for the WHITE, and **8 cents** per pound for the AMBER COLORED. Orders are Solicited. Address,

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

1859. 1889.

LANGSTROTH
REVISED.

The Progress of 30 Years.

This Book will be out during The Holidays.

It makes an entirely **new work,** and all who have read the former editions want this revision.

550 Pages—16 Plates.

Portraits of the World's Leading Bee-Writers.

Numerous New Engravings.

Nearly **Five Hundred Copies** of this book have been ordered before the first copy is out of the binders' hands.

☞ **Price, $2.00.** Discount on Quantities. Address,

CHAS. DADANT & SON,
50Atf HAMILTON, Hancock Co., ILLS.
Mention the American Bee Journal.

THOS. G. NEWMAN & SON,
DEALERS IN
Bee-Keepers' Supplies,
INCLUDING
Honey and Wax Extractors,
Comb Foundation—all styles,
Bee Hives—nailed and flat,
Sections, Crates and Frames,
Kegs and Pails for Honey,
Seeds for Honey Plants,
Smokers, Veils, etc.

ILLUSTRATED CATALOGUE
free upon application.

923 & 925 West Madison St.,
CHICAGO, ILLS.

HONEY

WE are now ready to receive shipments of HONEY, and would be pleased to open correspondence. Liberal advances made on consignments. Let us hear from you, as we can render prompt returns at the top market values. Reference on file with the American Bee Journal. **S. T. FISH & CO.,**
33A20t 189 So. Water St., CHICAGO, ILL.
Mention the American Bee Journal.

A SPECIAL DISCOUNT
ON HIVES.

In order to keep our Hive-Factory running during the dull season, we will make a DISCOUNT of 10 PER CENT on all orders for Hives, Cases, Frames, Shipping-Crates, and Bee-Feeders, received before Jan. 1, 1889.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.
Mention the American Bee Journal.

Free. ONE YEAR. Free.

WE have made arrangements with the publishers of the COTTAGE HEARTH, of Boston, Mass., to offer the AMERICAN BEE JOURNAL as a **free premium,** with their Magazine for the year 1889, and we now give to all our readers the benefit of this arrangement.

THE COTTAGE HEARTH

Is a well-known Family Magazine now in its 14th year, and is a favorite wherever it has been introduced. It has each month Music, Floral and Health Departments, Latest Fancy Work, Sabbath Reading, Demorest's Patterns, Approved Receipts, Household Hints, and Prize Puzzles for Children.

This beautifully illustrated Monthly is a large 34-page, elegantly printed Magazine, and has attained a large circulation solely on its merits as a family magazine. Its

Price, $1.50 per Year,

is very low for such a desirable home magazine, but we will send both **The Cottage Hearth** and the AMERICAN BEE JOURNAL to any one who sends us **$1.50**—just the price of one of these standard publications.

☞ Sample Copies sent free on application to F. P. Shumway, Jr., Boston, Mass.

THOS. G. NEWMAN & SON,
923 & 925 West Madison-Street, - CHICAGO, ILLS.

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

Send 75 Cents for my Book, entitled—"A Year among the Bees;"—114 pages, cloth bound. Address,

DR. C. C. MILLER,
20Atf MARENGO, ILLS.

We have some **ELEGANT RIBBON BADGES,** having a rosette and gold Bee, for bee-keepers' use at Fairs, Conventions, etc. Price 50 cents each, by mail, postpaid.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison St., - CHICAGO, ILL.

THE FLORAL INSTRUCTOR.

A Beautiful monthly magazine, especially designed for amateur cultivators, will be sent a whole year, on trial, for only 20c. in silver or stamps. Mention this paper in replying.

INSTRUCTOR PUB. CO., Ainsworth, Iowa.
49A3t

Dadants' Foundation Factory, wholesale and retail. See advertisement in another column.

Patent Flat-Bottom Comb Foundation

High Side Walls, 4 to 14 square feet to the pound. Wholesale and Retail. Circulars and Samples free

J. VAN DEUSEN & SONS,
(SOLE MANUFACTURERS),
1Atf SPROUT BROOK, Mont. Co., N. Y.
Mention the American Bee Journal.

British Bee Journal
AND BEE-KEEPERS' ADVISER,

IS published every week, at **10s. 10d.** per annum. It contains the very best practical information for the apiarist. It is edited by Thomas Wm. Cowan, F.G.S., F.R.M.S., etc., and published by John Huckle, King's Langley Herts, England

NUMBER ONE OF THE

QUEEN BREEDERS' JOURNAL

IS now ready. Send your name on a postal card and receive a free sample copy of this bright new journal. Only 50 cts. a year.

Address, **THE Q. B. JOURNAL,**
51A1t (E.L.Pratt, Pubr.) MARLBORO, MASS.
Mention the American Bee Journal.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXIV. Dec. 26, 1888. No. 52.

EDITORIAL BUZZINGS.

We Wish all of our readers, both young and old, a prosperous and

"HAPPY NEW YEAR."

Christmas has come and gone. Of all holidays this is the most welcome, because it is ushered in with friendship's pleasant gifts, and ends with the pronunciation of blessings on all. Its observance for so many hundreds of years has given it a character which appeals to all to promote the joy and happiness of kindred and friends.

This week is the time for joyous parties and gladsome greetings. Let every day be bright and beautiful, and we hope all hearts will rejoice and be glad! *A Happy New Year* to all our readers.

Accept Our Thanks for the patronage of the past, and we cordially invite all our readers to retain their places in the BEE JOURNAL family for 1889.

A Complete Index is presented this week, not only to the subjects discussed during the year, but also to the names of correspondents. The latter one comprises nearly all of the best and most thoroughly successful apiarists of the present age.

A Favorable Word from any of our readers, who speak from experience, has more weight with their friends than anything we might say. Every one of our readers can lend us a helping hand, in this way, without much trouble, and at the same time help to scatter apicultural knowledge and promote the welfare of our pursuit.

Another Tirade of Abuse finds a place in an Eastern publication, from the pen of C. J. Robinson. This time the invectives are aimed at our old and honored friend—the Rev. L. L. Langstroth, who it seems, some eight years ago, wrote an article correcting some mistakes made by Mr. R. in an article on the first importation of Italian bees.

As usual the comments of Mr. Langstroth were a mere statement of facts, without the slightest unkind remark. This exasperated Mr. Robinson, and he has, at every opportunity, dipped his pen in gall and hurled forth abuse at the devoted head of our esteemed friend Langstroth.

It is to be regretted that any paper—much less a bee-periodical—could be found that would publish an article which contained such epithets applied to such a *good* man as Mr. Langstroth. Here are some of them: "Robber," an "outrage," "foul," "land-pirate," "rob a dead man," "robbed so ruthlessly," etc., winding up with the following:

Mr. Langstroth's motto, on paper, has been: "Give honor to whom honor is due," but he has signally failed to practice what he has preached.

No excuse can be given for such vile charges. The insignificant matter of who was the first to import Italian bees is hardly worth discussion, much less the maligning of a man of such prominence and character as Mr. Langstroth.

It only shows the tendency of the times, to follow with a dagger the greatest and best men of the age, and exhibits the perversity of shallow minds. To such we would recommend the study of the following noble thought and language of the great Rufus Choate, which is worthy of being enshrined in the hearts of all high-minded Americans. "National Hatred" was the topic of one of his orations. In it he said:

No, sir, we are above all this. Let the Highland clansman, half-naked, half-civilized, half-blinded by the peat-smoke of his cavern, have the hereditary enemy and his hereditary enmity, and keep the keen, deep and precious hatred, set on fire of evil, alive if he can.

Let the North American Indian have his, and hand it down from father to son, by heaven knows what symbols of alligators and rattlesnakes and war clubs, smeared with vermillion and entwined with scarlet.

Let such a country as Poland, cloven to the earth, the armed heel on the radiant forehead, her body dead, her soul incapable to die—let her remember the wrongs of days long past.

Let the lost and wandering tribes of Israel remember theirs—the manliness and the sympathy of the world may allow or pardon this to them.

But shall America, young, free and prosperous, just setting out on the highway of heaven, decorating and cheering the elevated sphere she just begins to move in, glittering like the morning star, full of life and joy—shall she be supposed to be polluting and corroding her noble and happy heart by moping over old stories of stamp act and tea tax, and the firing of the Leopard on the Chesapeake in the time of peace?

Every true man—every high-minded American will join in saying, "No, Sir; we are above all this" mud-throwing! There shall be no maligning of the men we delight to honor! No abuse of our honored and honorable fathers in apiculture! No polluting of their garments with the slime of invective, railing or abuse!

The Twenty-Fourth Volume of the AMERICAN BEE JOURNAL ends with this number, making another valuable "book of reference" for the apicultural world. Its record, character and usefulness in the past is its GUARANTEE for the future. As heretofore it will lose no opportunity to further the interests of honey-producers by booming the product and faithfully defending the pursuit of apiculture on every occasion requiring it. For **Fifteen Years** we have labored to publish a bee-periodical which should be a credit to the pursuit, and a medium of communication between the bee-keepers of America and the world generally. How well that task has been done we leave our readers to say. At first it was a *monthly* containing about the same amount of reading matter as is now issued weekly. Then the price of subscription for the monthly was two dollars; now the weekly is issued at one dollar—four times as much matter for one-half the price.

In order to be of the greatest advantage to our pursuit, we must have the largest constituency of wide-awake, progressive apiarists, and we request that if our patrons think we have labored for their interest in the past, that they will give us "the vote of confidence" in the shape of continued exertions for the prosperity of the AMERICAN BEE JOURNAL.

It is only fair to expect you to work for the BEE JOURNAL'S interest, for it is working for your interest every day in the year.

Do Not Forget to send a dollar for a membership fee to the National Bee-Keepers' Union for 1889. It merits your approval, and needs your assistance.

By Using the Binder made expressly for this BEE JOURNAL, all can have them bound and ready for reference and examination every day in the year. Price 60 cents, postpaid. Subscription for one year and the binder for $1.50.

Do not send to us for sample copies of of any other papers. Send for such to the publishers of the papers you want.

Always Mention your Post-Office, County and State when writing to this office. No matter where you may happen to be for the hour when actually writing—never mention anything but your permanent address. To do otherwise leads to confusion, unless you desire your address changed. In that case state the old as well as the new address.

CONVENTION DIRECTORY.

1888. *Time and Place of Meeting.*

Dec. 29.—Brant, at Brantford, Ont.
R. F. Holtermann, Sec., Brantford, Ont.

1889.
Jan. 8, 9.—Ontario, at Owen Sound, Ont.
W. Couse, Sec., Streetsville, Ont.

Jan. 9-11.—Nebraska State, at Lincoln, Nebr.
J. N. Heater, Sec., Columbus, Nebr.

Jan. 15.—Vermont State, at Middlebury, Vt.
Marcia A. Douglas, Sec., Shoreham, Vt.

Jan. 15, 16.—N. W. Ill. & S. W. Wis., at Rockford, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

May 4.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

A Woman's Work.—Mrs. S. E. Sherman, Salado, Texas, on Dec. 10, 1888, writes as follows:

Last spring my apiary consisted of 40 good colonies of Italian and hybrid bees. I increased them to 60 colonies, and obtained from them 6,000 pounds of honey—mostly extracted. How does that do for a woman?

[It is first rate. You must have had a good season down in Texas.—ED.]

Scanty Surplus.—J. W. Vandervoort, Belleville, Ont., on Dec. 13, 1888, writes:

The last two years have been very poor seasons for apiarists. There was but very little surplus honey, and exceedingly small increase of bees. We hope for something better next year.

Fair Season's Report.—Mr. Albert Schumacher, New Alsace, Ind., on Dec. 13, 1888, writes thus about his bees:

Last spring I had 20 colonies of bees left out of 24 put into winter quarters in the fall previous (6 being blacks, 8 hybrids, and 6 young colonies from swarms of the previous year.) I have put 24 colonies away into winter quarters this fall, all being packed in a bee-house, and all are in good condition with plenty of honey, and I hope they will go through the winter safely, and come out strong next spring. My honey crop for the past season was 370 pounds of comb honey, and 200 pounds of extracted. I value the BEE JOURNAL very highly, and can hardly wait from one number to another, so anxious am I to read its very interesting articles.

Honey from Wild-Rice.—C. P. Hewett, of Kingston, Wis., writes as follows:

I have never seen anything published in relation to wild-rice honey, in the AMERICAN BEE JOURNAL. It is the finest flavored honey that I ever saw. It has medical properties that no other honey possesses. My wife has been using it for the last six months, and now she is cutting a fine set of teeth, at the age of 58 years. There is so much "doctor" connected with the bee-fraternity. How is this? I shall work 100 colonies for rice honey next season, and we may expect to see every lady here with bright, shining teeth, grown from the use of wild-rice honey. If any one disputes the above statement, he can write to the postmaster here, or to H. Qalkman, the dentist, who has extracted teeth for my wife.

Theory and Practice.—Mr. J. W. Tefft, of Collamer, N. Y., sends the following argument on the theory and practice of apiculture:

If the theory of the theoretical bee-man is true theory, and if the practice of the practical bee-man is correct practice, then the theory and the practice will fit each other, line for line and dot for dot.

The practical man becomes a theoretical man when he begins to give his reasons for doing as he does. If a person learns the laws of nature which relate to bee-mechanics from books or lectures, and then applies these laws to practice, and makes no mistakes in this application, he stands equally face to face with the man who begins at the practical end, and works up until he learns the same laws. They start at opposite ends of the same path, but both get there, all the same.

Wild Cucumber Honey, etc.—Geo. W. Hanson, of Chapman, Kans., on Dec. 10, 1888, writes:

I commenced last spring with one colony, which swarmed on May 19, 22 and 25. I bought 5 nuclei, and one of them swarmed on July 28 and 29. The others swarmed twice each, and I have now 15 colonies. I fed 4 of the last swarms. I lost one queen, but united a weak colony with the queenless one. I had no trouble in uniting. I have learned many valuable lessons from the BEE JOURNAL the past season, and still desire to learn more. My bees did not work on wild sunflowers as they did on the tame ones; but about Aug. 10 I noticed them taking a northeast course in nearly a perfect swarm; I traced them nearly one-half of a mile, and found them working on a large patch of wild cucumbers. They work on it as strong as they do on buckwheat, and all day long. It blossomed four or five weeks. I examined some of the flowers, and could see the nectar in the blossoms, and it tasted very sweet. I intend to put some of it under cultivation next year. It grows on low land, and I hope that I can give a fuller report of it next year. I have my bees in the cellar now, and they are doing well. With this letter I send a few seeds of what is called "wild cucumber."

[Thanks for the seed. We will plant them next spring.—ED.]

To Delinquents.—After January 1, 1889, we shall discontinue sending the AMERICAN BEE JOURNAL to those who have not responded to the bills we sent out a few weeks ago.

This does not mean that we shall try to *deprive any one* of the pleasure of reading the BEE JOURNAL who really desires its continuance, but finds it difficult to pay now. Such can get a short extension of time by asking for it. We should be sorry to lose any subscriber who wishes to have its weekly visits continued, but do not want any to continue to take it who do not think they are getting the full worth of their money.

A Magnificent Present

For every one who will send us a Club of five *new* subscribers for 1889, before next January. All the remaining issues of this year *free* to new subscribers.

This ATLAS

contains large scale Maps of every country and civil division upon the face of the Globe.

It is beautifully illustrated with colored diagrams, that show wealth, debt, civil condition of people, chief productions, manufactures and commerce, religious sects, etc., and a superb line of engravings of much historical interest & value, together with many new and desirable features which are expressly gotten up for this work—among which will be found a concise History of each State.

Price, in best English cloth binding (size, closed, 11x14 inches; opened, 22x14 inches), **$4.50.**

To any one sending us, direct to this office, **FIVE NEW Subscribers** for one year, with $5.00, (renewals not to count) we will *present* this beautiful Atlas, by mail, postpaid.

We have purchased one of them for our own use, and regard it as a valuable acquisition to our library. It is handsomely bound and contains a fund of very useful knowledge. It contains **192** pages.

THOS. G. NEWMAN & SON,
923 & 925 W. Madison-St., - CHICAGO, ILLS.

Mark It.—We have received several local newspapers from our subscribers, in which no item was marked. Please do not forget to mark any paragraph you wish us to read, when sending local papers to this office. We have no time to read thirty or forty columns of matter in order to find a few lines that may be of interest to us or the pursuit. Mark it, either blue, black or red, with pencil or ink, as may be most convenient—but *be sure to mark it.*

To Our Subscribers.—Send to F. P. Shumway, Jr., Boston, Mass., for a *free* sample copy of the *Cottage Hearth*, a beautiful illustrated magazine, and so realize what an EXTRAORDINARY OFFER we are making when we propose to send both the *Cottage Hearth* and the AMERICAN BEE JOURNAL for a full year for only $1.50, when the price of the *Cottage Hearth* alone is $1.50 a year, thus giving you two standard publications at the price of one.

The Time for Reading has come, with the long winter evenings. We have a large stock of bee-books, and would like to fill orders for them. To read and post up is the way to succeed in any pursuit—in none is it more important than in bee-keeping.

Do Not Fail to get up a club and send it with your renewal for next year.

QUERIES & REPLIES.

Wired Frames of Foundation for Straight Combs.

Written for the American Bee Journal

Query 600.—1. Are there any objections to very thick foundation? 2. Which is the better, wired frames or wired foundation? or are both used together? 3. Are wired frames a certain guaranty against all warping or sagging? 4. Where can I get reliable and detailed instructions for wiring frames, and putting in foundation? I have spent about $60 in foundation, and I do not believe that I have one perfectly straight comb. The foundation was a little over four sheets to the pound; the frames were 17⅛ by 8½ inches, inside measure, and the hives were well shaded. I would like to have combs as straight as if they were sawed out.—B. C.

Let the bees build their combs *a la* Hutchinson, and thus avoid all expense and bother.—G. M. DOOLITTLE.

1. Yes, the cost. 2. I prefer wired frames. 3. Yes, if properly used. 4. In our standard bee-books. I have now used wired frames for several years, and all my frames are true and straight.—A. J. COOK.

1. Yes. 2. Wired frames. 3. No. 4. Attend some bee-convention and call up the question, or write to some well known authority.—H. D. CUTTING.

1. Yes, very thick foundation is too heavy for any purpose. 2. Foundation in wired frames. 3. I think so, if properly made and properly used.—EUGENE SECOR.

1. Not for brood-combs, except the cost for so much wax. 2. Wire the frames, and then press on the foundation. 3. Yes, if properly put up. 3. In the back numbers of the BEE JOURNAL. I think you had the very best foundation to get straight combs from, but you must have handled it badly.—JAMES HEDDON.

1. No, only it may be an unnecessary expenditure of wax. 2. I do not use either. 3. While a remedy, the bees object to them. 4. In most of the bee-books. *Perfectly* straight combs can always be obtained if the bee-keeper will give an eye to the drawing-out of the foundation by the bees.—J. P. H. BROWN.

1. It should not be too thick. 2. I prefer wired frames. 3. I have never had any warping or sagging with them. 4. Instruction has been given in different bee books and papers.—C. C. MILLER.

1. Not for brood, except its cost. 2. Either. Most people wire the foundation too much. 3. Yes, three wires horizontally, or four perpendicularly. 4. We do not know that any special instructions are needed, though there is probably some fault in your method. We *never* have any trouble. Our combs are *all* as straight as boards.—DADANT & SON.

1. Not for the brood-chamber, except the expense of wax. 2. Wired frames are the better, because the frames are also strengthened. Either way is sufficient. 3. Yes, if the wire and foundation are good, and the work properly done. 4. In any good work on bee-keeping, or in back numbers of the bee-papers.—R. L. TAYLOR.

1. No objection except the extra expense. 2. I prefer wired frames. 3. If properly wired and filled, they are. 4. The late published manuals on bee-keeping explain fully.—J. M. SHUCK.

1. There is no objection to very thick foundation for brood-combs, except the cost. 2. Wired frames are the best, and if rightly used there is no trouble in getting combs "straight as a board."—C. H. DIBBERN.

1. I know of no objection to heavy foundation for the brood-chamber. 2. Wired foundation. 3. No. One must use some judgment and skill in putting foundation in the frames. 4. In the bee-papers.—MRS. L. HARRISON.

1. I prefer foundation about six sheets to the pound (Langstroth size). 2. I have never used wired foundation, having used only the wired frames. 3. Yes, with me. 4. Get a sample wired frame. Almost all dealers have instructions for that purpose.—P. L. VIALLON.

1. I think there are. Very thick foundation is a waste of capital, besides the combs are not so nice, in my estimation. 2. I would prefer wires in the frame. But I have my combs drawn out in the upper story of the hive, and use the finished combs to hive swarms on, and by this management I dispense with wire altogether. 3. Yes, if the work is properly done. But I do not like wire in combs. 4. You ought to find the information in any good work on bee-culture.—G. W. DEMAREE.

I have but little experience with foundation in the brood-nest. 1. There are no objections to quite thick foundation, except the waste of wax. 2. I have never used wired foundation or wired frames. I have straight combs without either. 3. I do not know. 4. In any of the books on bee-culture.—M. MAHIN.

1. Yes. About 5 or 6 feet to the pound suits me best, and is very nearly the same weight as comb built by the bees; and more wax or weight is a waste. 2. I make my own foundation on a Given press, so I prefer and use wired frames. 3. Yes, if properly done. 4. I do not know, unless you ask some one to write out instructions to be published, or write to some one who is posted, for instructions.—A. B. MASON.

I use Dadant's heavy foundation, 5 feet to the pound. If you will wire your frames horizontally, four or five strands to the frame, use full sheets of foundation, and space your frames 1½ inches from center to center, you will realize but little inconvenience; at least that has been my experience with thousands of combs. Chas. Dadant & Son are about as good reference as I can give you, for detailed instructions.—J. M. HAMBAUGH.

1. Yes, the expense of wax; eight sheets to the pound, one foot square, is thick enough for the brood-chamber. 2. Wired frames, by all means. 3. Not in all cases; so a little judgment must be used. 4. In any practical work on bee-keeping, or in the old files of the AMERICAN BEE JOURNAL. No set instructions on this point alone can be given that will be of much value. Study the whole subject thoroughly.—J. E. POND.

1. For sections, yes. For the brood-chamber it should not be less than 7 square feet to the pound. 2. Wired frames. 3. Ye-es. 4. Look in Prof. Cook's Manual, last edition, pages 314 to 316. Your foundation was entirely took thick; you should have used not less than 12 sheets to the pound for sections. If your combs are badly bulged out, place them upon a table or some other level surface; place a level board upon the comb and *press* it firmly down into the frame. This plan works well with me.—WILL M. BARNUM.

1. Yes; its cost, principally. 2. Wired frames filled with comb foundation. 3. Probably so, if carefully made and used. 4. In the standard bee-books and bee-periodicals. The fault must have been in management, for the foundation was all right.—THE EDITOR.

Convention Notices.

☞ The Nebraska State Bee-Keepers' Association will convene at Lincoln, Nebr., on Jan. 9, 10 and 11, 1889. J. N. HEATER, *Sec.*

☞ The annual meeting of the Ontario Bee-Keepers' Association will be held at Owen Sound, Ont., on Jan. 8 and 9, 1889. W. COUSE, *Sec.*

☞ The annual convention of the Vermont State Bee-Keepers' Association will be held in the Court House at Middlebury, Vt., on Tuesday, Jan. 15, 1889. MARCIA A. DOUGLAS, *Sec.*

☞ The annual meeting of the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will be held in the Supervisors Room of the Court House at Rockford, Ills., on Jan. 15 and 16, 1889. D. A. FULLER, *Sec.*

☞ There will be a meeting of the Susquehanna County Bee-Keepers' Association at the Court House in Montrose, Pa., on Saturday, May 4, 1889, at 10 a.m. H. M. SEELEY, *Sec.*

THE DYING YEAR.

The New Year comes, and on her wings doth bear
A holy fragrance, like the breath of prayer;
Footsteps of angels follow in her trace,
Witnessing the Old Year's death in holy peace.

The stream is calmest when it nears the tide,
And flowers are sweetest at the eventide,
And birds most musical at close of day,
And saints divinest when they pass away.

Morning is lovely—but a holier charm
Lies folded close in evening's robe of balm;
And weary men must ever love her best,
For Morning calls to toil, but Night to rest.

All things are hushed before her, as she throws
O'er earth and sky her mantle of repose;
There is a calm, a beauty and a power,
That morning knows not, in the evening hour.

"Until the evening" we must weep and toil,
Plow life's stern furrow, dig the weedy soil,
Tread with sad feet our rough and thorny way,
And bear the heat and burden of the day.

So when our sun is setting, we may glide
Like Old Year's evening, down the dying tide;
And leave behind us as we pass away
Sweet, starry twilight round our sleeping clay!

CORRESPONDENCE.

COLORS AND BEES.

Are Bees Attracted by the Color of Flowers?

Written for the American Bee Journal

BY PROF. L. H. PAMMEL.

On page 700 Mrs. Mahala B. Chaddock takes objection to the statement that changes in color of flowers, after they have been pollinated, and the secretion of nectar has ceased, is developed for the apparent purpose of indicating to insects, that their services are no longer needed, thereby saving them much waste of time in probing such flowers.

In many flowers, the fertility depends upon the insects which visit them. The more frequent the visits of insects, the greater the fertility. So that color as a guide is not only advantageous to insects which visit flowers, but the plant in return is capable of producing more and better seeds, thus giving it a better chance in the battle of life.

That odor is important in attracting insects, is an established fact, which no one disputes. Most naturalists agree that color is an important factor, in attracting insects to flowers, and that they have done much to develop the colors in flowers.

In nearly all of the brightly colored flowers, pollination is effected by insects, as in mints, larkspurs, columbines, honey-suckles, salvias, etc., but in the inconspicuous flowers of the hazel, walnut, oak, grasses and sedges, it is done by the wind.

Will Mrs. Chaddock please explain why the sunflower should have developed the large, conspicuous ray-flowers surrounding the head; the vermilion red tracts surrounding the flowers of poinsettia; the bright red corollas of bee-balm, or the rose purple corolla of the dragon-head, and numerous other cases which might be mentioned? Have the colors and forms of flowers been developed merely to gratify and please our senses?

The simple statement that insects are attracted "by *scent* and not *color*" has little weight. Experimentally it has been shown by Sir John Lubbock, in "Ants, Bees and Wasps," chapter X, page 274; and by Hermann Muller, in "Versuche ueber die Farbenliebhaberei der Honig-biene," Kosmas, No. 10, Vol. XII, page 273, that bees possess an acute color sense, readily distinguishing such colors as blue, green, orange, red, white and yellow. It does not follow from this, that insects reason because colors are discerned, any more than a bee uses reason to construct its cells.

St. Louis, Mo.

BUCKWHEAT.

The Japanese Variety—Its Seed, Flower and Honey.

Written for Gleanings in Bee-Culture

BY PROF. A. J. COOK.

As you requested, I send my conclusions after raising a crop of Japanese buckwheat. I thought at the time, that $3.00 per bushel was a good deal to pay for seed; but now after raising the crop I do not regret that I paid it. I sowed one-half early in June, and the remainder late in the same month. Thus the field was in blossom a long time.

When the blossoms first opened, the bees visited them freely, though upon close observation it was found that the bees ceased gathering from these flowers sometime before the flowers faded.

Common report hath it, that bees will not work after noonday on the flowers of common buckwheat. This was not true this season on the Japanese variety; bees were on the flowers at all times of the day. But what astonished us all was the prolificness of this buckwheat, and the great size of the berry. All who saw it said they never saw its equal.

I sowed it on the site of an old brick-kiln—solid clay soil with almost no humus, and yet I had a fairly good crop. I took two bushels to mill, that we might test the flour. The miller said he never saw so little waste in buckwheat, nor such enormous kernels. Of course the little waste would follow from the large size of the kernel. We have tested the flour in griddle-cakes with maple syrup, and pronounce it A No. 1.

Dr. Beal says he believes that this is our common buckwheat, *Fagopyrum esculentum*. As buckwheat is a native of North Asia, this is quite likely true; but one has only to see the two side by side, to be convinced that this Japanese is a distinct and well-marked variety.

Let me suggest reasons why farmers (especially bee-keeping farmers) should sow buckwheat as a part of their crop rotation. First, it is sown late in June, and the comparative leisure after planting gives opportunity to prepare the ground. Secondly, it is an excellent crop to precede corn on land that is infested with wire-worms. It seems to starve out these terribly destructive grubs. Again, it is a profitable crop, often paying as well or better than does wheat. It also gives us the basis of our buckwheat cakes, which, with maple syrup, will tempt the most capricious appetite. Lastly, buckwheat furnishes ofttimes abundant nectar for the bees when all else fails.

Agricultural College, Mich.

OVER-PRODUCTION.

Over-Stocking and Legislation for Bee-Keepers Considered.

Written for the American Bee Journal

BY J. W. TEFFT.

Many very interesting articles have appeared in the AMERICAN BEE JOURNAL concerning over-production and legislation for bee-keepers, but they do not hit the mark, I think, or at least do not strike it in the centre, and make a convincing argument. There is no such thing as apiarian over-stocking or over-production! The trouble lies in marketing the product. Impecunious honey-producers create an unfortunate depression of prices by selling honey at any figures that may be offered! We might legislate until doom's-day to cure this evil, and accomplish nothing.

Many are fitted by nature and experience to manage large apiaries, and their tact, judgment and knowledge of human nature enable them to succeed, where others ignominiously fail! They use discretion, and only in cases

of absolute necessity will they lower prices or give an additional discount to secure a sale. Other considerations will be brought into play by them. A sale of honey at good prices will be considered more of an achievement than a heavy order actually bought by a special inducement in cut-rates! It is an old adage that, any one can sell honey at cut-rates.

If an inexperienced honey-producer, or one of limited resources, has the power to name lower prices when necessary, he is likely to think that every time he meets a buyer, that emergency confronts him. If the buyer is indifferent (and they generally are), or is well supplied with honey, or prefers to wait a week or two before deciding what to do, that honey-producer weakens, and straightway the lever, a cut-price, is pulled, and the power of that mighty influence is brought to bear, and its effects are felt from one end of the country to the other.

Again, if the cut is deep enough, or if this is what the buyer has been playing for, a sale is effected, and the sacrificing seller is happy—a great deal happier than his partner, wife or principal. Such a salesman is able to make matters very uncomfortable for his competitors all over the continent.

This is the true feature of the situation, and it is worth looking into by those who are anxious to improve the condition of the honey trade, through weak salesmen, commission men or jealous competitors.

Just look at the following figures for comb honey, as quoted in the several markets named :

Chicago, Ills	18@19c.
Milwaukee, Wis	18@20c.
New York, N. Y	16@18c.
Detroit, Mich	17@18c.
Kansas City, Mo	18c.
Boston, Mass	17@18c.
St. Louis, Mo	14@18c.
Syracuse, N. Y	10@13c.

Syracuse is the home markets of Messrs. Doolittle, House, Salisbury, Betsinger, Parks, Ross, Bailey and others. From appearances something is wrong there. From 10 to 13 cents is one-third less than any other market.

Collamer, N. Y.

[Perhaps some of the honey-producers named above will in reply state some cause for the apparent discrepancy in prices between New York, Boston and Syracuse. Is it not possible that the quotations in the latter market are for extracted honey? The difference is so great as to seem to be almost unaccountable, if it is intended to represent the true market prices for honey in the comb.—Ed.]

THE QUEEN.

Lessons in Government from the Bee-Hive.

Written for the American Bee Journal

BY G. M. ALVES.

Under the above heading, on page 811 of the Bee Journal for Dec. 12, an article from Dr. G. P. Hachenberg is published, wherein he *assumes* that the government of a colony of bees is performed by the queen, and following argues at some length the wisdom of female government.

To enter into a discussion of the latter subject, is probably out of place in a Journal devoted exclusively to bee-culture, but it surely is proper to point out the error of his first assumption.

We may say with positiveness, that modern scientific bee-keeping has thoroughly dissipated the old myth of a monarchy in the hive. Wherever modern observations have been scientifically accurate, they have furnished no reasons for concluding that the queen does little else in the economy of the hive, than the producing of the eggs, and in the light of these facts it would be much preferable to call her the mother, rather than the queen.

That the above is true, is not a subject for discussion, but of citation, and those who question, are properly referred to our modern bee-literature.

Henderson, Ky.

[Dr. Hachenberg was evidently intent upon paying a deserved compliment to the women who are "gifted to rule" among the nations of earth.

Mr. Alves says in the foregoing article that the Doctor "*assumes* that the government of a colony of bees is performed by the queen." What the Doctor did say was this:

Perhaps there is nothing in nature that has excited my admiration more, than to watch and study the government of a thrifty colony of bees *under the influence* of the queen. The laws of political economy as instituted by man, surely could not improve it.

He admired the government of the colony of bees *under the influence* of the queen. We all know that in the *absence* of the queen, the bees are uneasy, and "the government" is not so much to be admired as it is with her presence, and soothing *influence*, and in all probability this was the controlling thought of Dr. Hachenberg, when writing the article in question.

He evidently knows well enough that the so-called "queen" is but the "egg-layer"—the mother—but for the compliment to our mothers, wives, and sisters, he uses the term *queen*, and charms us all into reverence and loving devotion. This thought is *justified*, perhaps, by the closing paragraph of the Doctor, which is as follows :

Nature evidently has made the female a ruling power—to rule in love, peace and harmony. The male in all departments of animal life is by nature selfish, cruel, and exceedingly belligerent. In this there is no exception in man—and only where he soars over his own sex, he is a gentleman, a Christian, and a true scholar.

As long as she can "rule in love, peace and harmony," every true man will gracefully submit, and yield to her the palm!—Ed.]

HONEY-PLANTS,

And the Time Each Bloomed the Past Season.

Written for the American Bee Journal

BY W. H. SHANER.

I started the bees to carry flour early last March, and the colonies that carried it the fastest bred up the most rapidly. On March 27 they brought in the first natural pollen, and work on the flour ceased. On April 15 the maples bloomed, but the weather was wet and cold, and the bees lost nearly all of it.

Peaches bloomed on April 30, pears on May 3, and apples on May 4, and lasted 14 days. The weather was pretty fair, and the bees bred up very fast. On May 17 we had a very heavy frost.

Crab-apples bloomed on May 24, and locust and raspberries on May 30, and the bees worked so lively that I put the sections on, which they occupied, and in five days the combs were half drawn. The bloom then failed, and work in the sections ceased.

Alsike and red clover came into blossom on June 10, but the bees worked more on the red clover than on the Alsike. We had no white clover this year. A neighbor, who lives a mile from me, told me that he had a notion to get a net and catch a ot o my bees, where they crossed a high hill to get to his red clover field. He saw one of the big Italians catch a black bee, and fly away with it. But I had the pleasure of seeing a nice lot of sections filled with red clover honey, which is dark, but very good.

Linden bloomed on July 12, and lasted twelve days. These trees are scarce here, so the bees did not have a "boom." Golden-rod bloomed on July 26, and the bees got some surplus from it, which is very nice, and fully up to the white clover honey.

Buckwheat bloomed on Aug. 5, and the bees gathered enough from it to give some of them the swarming fever, but no surplus. Asters were in bloom on Aug. 20. They are like the buckwheat where the sun strikes it—the bees only work on them in the forenoon.

Last spring I bought 5 colonies of bees from a man near Cincinnati, O., and I told him to ship them by freight about the close of apple bloom. They were shipped on May 7, and arrived on May 17 in good condition, and not a comb broken. In 23 days No. 1 swarmed, in 24 days No. 2 swarmed, and they were all at work in the sections. They were shipped in two-story Langstroth hives, a notched strip being put in the bottom to hold the frames, which were nailed at each end. Each hive was fastened together with cleats, and a 1¼-inch hole was in the side and in the end of the hive, covered with wire-cloth. A hole was also bored through the front of the hive, under the portico (which is very important), and wire-cloth nailed over the portico. Bees packed in this way are good for a shipment of ten days or two weeks. The queens all kept laying on the way, but the bees capped no brood.

The past season was a very poor one. I got 500 pounds of honey from 19 colonies, and increased them to 37. I fed 250 ponnds of honey for winter stores.

On Nov. 22 I carried 29 colonies into the cellar; they are very quiet at a temperature of 48°, Fahr. Eight colonies are packed in chaff, on the summer stands.

Leechburg, Pa., Dec. 10, 1888.

MOVING BEES.

When to Buy and Move Colonies of Bees.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

A subscriber wants to know which is the best time of the year to purchase bees—fall or spring; and if they can be moved at any other time of the year, except when there is snow on the ground, so that they can be moved upon a sled.

If bees are purchased in the fall, there cannot possibly be any profit in the investment, except they can be sold at an advance, until the following snmmer, and the risks are large. Veterans, who have grown old in the service, often lose many colonies during the winter. The seasons are so variable, and we have not the gift of knowing whether the coming winter will be very cold, moderate or mild; if we had, we could advise more wisely.

I have seen bees die during the winter when the conditions were favorable for their living. When I took out the combs and examined everything connected with the hive carefully, I could not see any cause for their death. I simply knew that the bees were dead. Perhaps if there had been a coroner's jury, the verdict would have been, "heart disease."

When a colony of bees that belongs to a person who owns many colonies dies, the loss is trifling, for he can, another season, use the hive and comb. But when a person purchases colonies in the fall, and they perish during the winter, he may lose his combs by the moths, before he can procure swarms to put into the hives. Occasionally, colonies are sold at sales for not more than the honey and hives are worth; then it would be safe enough to invest.

In the spring, a good, strong colony of bees promises to be a good investment. I have never seen a season but that, during some period of it, bees laid up stores for winter. It is true that a crop of honey cannot be depended on every season, in most localities. Last year and this, were partial failures, owing to the severe drouth. Agriculturists and horticulturists have losses and failures in crops; pigs and chickens die of cholera; apples fail; while corn, wheat, oats and potatoes are not always sure. On the average, taking one year with another, three crops of honey out of five can be depended upon.

Moving Bees.

Bee-keepers of "ye olden time," who used the gum, or box-hive, thought that the only time to move bees was during good sledding; but this is a mistake, for they can be moved, with care, almost any time during the year.

There are several points in favor of moving bees upon the snow, where they are wintered out-of-doors. They can be lifted carefully and taken many miles, when the sleighing is good, with so little jar that they will not find out that they are moved at all.

A bee-keeper told me that when he started in the business he purchased a colony in a box-hive and moved them home in cold weather in a wagon over rough roads. The bees were shaken from the combs into a pile in the bottom of the hive. Many of them were numbed with cold and perished, for they could not crawl back where their stores were.

Beginners in bee-culture have got into more scrapes in moving bees, than in any other part of the business. Many persons do things by halves, and when told that they must fasten up the hives so that no bees can get out, they will stick a wisp of hay into the entrance, saying, "I guess that will do; and I will stuff some more around the hives when they are in the wagon," and lift them in.

I have known of a serious accident by the second story of a hive being knocked off through the jolting of a wagon over a rough road. A few nails, wisely driven, would have saved much loss.

There is another difficulty in moving bees, even in December. They may be moved safely, and all go well until the first warm day when they are on the wing, when they will return to the place where their hive stood, unless it has been moved more than a mile.

Late one fall we moved hives together so as to protect them, and the first warm day I noticed bees flying where hives had been. The night following there was a light snow, and the next day I gathered up handfuls of benumbed bees that could not find their hive. When bees go to work, they run out and fly, apparently taking no note of their surroundings.

A new swarm always takes its bearings, and returns to the same place; if it only remains a few hours after hiving, and is moved after sunset, many will return to the place where the swarm was hived.

When bees are moved in the spring, they are not so apt to return; it appears natural for them to mark their locality, with the advent of a new season. When hives are moved, it is well to put hay or grass against the entrance, or a board, so that they cannot run out and fly as they usually do. When they bump their heads, they will look for a reason, take notice of their surroundings, and return to the same place.

Tenant farmers usually move about the first of March, and many of them have a few bees—if they are not in hives of the latest fashion. March and April are very trying months on winged stock, and it is best that they be kept as quiet as possible. As the roads are usually rough and full of chuck-holes at this time of the year, it would be well to move their bees in advance, the last of winter, on the snow if possible. They should be protected from winds, and from the inroads of stock, and then not be afraid of using straw and corn-fodder liberally. It would be better for the owner to do this moving at his leisure, than when crowded with moving, seeding, etc., and much better for the bees,

as they will be at home, having marked their location, at the time of their first spring flight.

Peoria, Ills.

THE UNION.

Fourth Report of its Work, by the General Manager.

The General Manager congratulates the members of the NATIONAL BEE-KEEPERS' UNION upon the fact that so far NOT ONE case, which the Union has deemed it proper to defend, has been decided against the Union—its successful banner still waves triumphantly over the members, and makes the "Bond of Union" still stronger than ever. Every well-wisher, as well as member, will, no doubt, add—

Long may it, in triumph, be waved,
Until every bee-keeper sees
His rights defended and saved,
As well as the lives of his bees!

It is a well-known fact—one firmly established in the minds of all, that "in Union there is strength;" and a union of bee-keepers to defend our pursuit from the unjust attacks of ignorant or prejudiced persons, is not only desirable, but very necessary to our well-being and general prosperity.

For this purpose, and for it alone, does the National Bee-Keepers' Union exist—to throw a safe-guard around the pursuit, as well as its devotees. It does not seek a quarrel, but when one is forced upon any of its members, it sets up a "Defense" by its very existence and record. *Never yet* has it suffered a defeat. While that is a record to be proud of, it is also a *warning* to ignorant and jealous enemies to beware how they trifle with the pursuit of apiculture, and to keep their *hands off* of the interests of its devotees. It warns them that the bee-keepers, as well as the bees, have a sting, with which to torture their enemies!

The Union not only seeks to obtain decisions from the highest courts of America, but also to have on record these decisions to be quoted as precedents in all the courts of law, and by all the lawyers who practice therein.

The "Rich" Lawsuit.

In the lawsuit in New York, mentioned in our last report, the Judge stated that there were no *precedents* to guide the decision, and hence he ruled adversely to the bees, as did one in Canada, likening an apiary to a pig-sty or a manure pit. Now we are beginning to record decisions—to provide precedents!

This suit is still pending, the Union having engaged attorneys, and guaranteed the expense of the appeal from the rulings of the Judge, who likened an apiary to "pig-sty or slaughter house"—the jury, being bound by his instructions, awarded damages of *six cents*. The costs and attorney fees amounted to nearly $500, and the appeal will cost about as much more—thus $1,000 will have to be paid when the decision is made, by one side or the other.

The Arkadelphia Suit.

Our last report was issued just previous to the trial of this case. Mr. Z. A. Clark's case, who was put into jail at Arkadelphia, Ark., for maintaining his apiary in the suburbs of that city, came on and was tried before the Circuit Court. The case was tried on the "clean-cut" law question, viz: That the "city ordinance was illegal and void." The **victory** in this case is **for the Union,** the Circuit Court deciding that the city ordinance was *illegal and void*—that **the keeping of bees was NOT A NUISANCE!!**

When the prosecution realized that bee-keepers had an organized body for defending the pursuit against the malicious attacks of the ignorant and the prejudiced, it *weakened*—it tried "to hedge"—was willing to dismiss all the cases against Mr. Clark on a pretended informality in his bonds!

The city has decided to appeal the case to the Supreme Court. This is very fortunate, for we want a decision from the *highest* court to declare that bee-keeping is *not a nuisance!* The Union has paid the full fees, and it will be ably defended by Judge Williams, the most successful attorney in Arkansas.

Mr. Clark writes this concerning the case, dated Aug. 7, 1888:

Everybody in our little city, white and black, are rejoicing, but the anti-bee-council and their followers.

I had 25 witnesses summoned in defense of the Union, by whom I would have proved that the bees were not a nuisance; in fact, I never knew of a team or teamster being stung while passing my premises.

When the case came on, the City Attorney began to show weakness by trying to turn us out of court, on a motion to dismiss all the cases against me, on the informality of my bonds, stating that my bond was not sufficient, but Judge Hearn over-ruled the motion.

When my attorneys, Judges S. W. Williams, Witherspoon, Murray, and McMillan made a motion to dismiss the case against me upon the *voidness* of the ordinance, Judge Williams made an able speech in defense of bee-keepers, in which he showed that he knew something about bees himself.

After which, Judge Hearn stated to the attorneys that he had lived a long time in Arkadelphia, and that bees had been kept here all the time, and that he had not heard any complaint until this case came up—and that the keeping of bees *per se* was not a nuisance.

He said that the case would go to the Supreme Court, no matter in which way it was decided, but stated he wanted to be found on the *right* side, when decided in the Supreme Court.

He then sustained our motion to dismiss the case, and declared the ordinance void. The City Attorney then gave notice of an appeal. Hence, we go up higher, amid the cry of "victory" and "hallelujahs."

This shows what brothers can do when banded together, with a Captain like Thomas G. Newman, to direct our battles against ignorance and the prejudicial whims of an ignorant populace. Z. A. CLARK.

Mr. A. R. Nisbet, a bee-keeper of Dobyville, Ark., writes as follows concerning the trial:

I wish all the members of the National Bee-keepers' Union, and in fact all the bee-keepers of America, could have been with us during the fight at Arkadelphia on the 4th inst. It would have made them all feel good to have heard Judge S. W. Williams read section after section of law, in Mr. Clark's favor, showing that a man's right to hold property is paramount to all legislative power; and any attempt to take away such right is unconstitutional. He certainly made an able defense, proving to all present that he was equal to the task before him.

The Bee-keepers have constitutional *rights* which they should defend—and cannot be just to themselves and their successors in the business if they do not defend them!

High Indorsement.

The following resolution was passed by a unanimous vote at the International Bee-Association last September:

Resolved, That it is the sense of this Society that the National Bee-Keepers' Union has been productive of good, and deserves the hearty, moral and financial support of all bee-keepers, and that the General Manager deserves and receives the hearty gratitude of this Association for his very earnest, efficient and disinterested services.

Honey Production.

In addition to the many sensational stories about "manufactured comb honey," the daily papers last August published an article which stated that the St. Louis Society of Microscopists had examined several hundreds of samples of honey, and found the majority of them adulterated. Knowing that this was untrue, I wrote to the editor of the *Journal of Agriculture*, the paper to which the matter was credited, and he has given this explanation:

The facts are as follows: John C. Falk, a practical druggist and active member of the St. Louis Microscopic Society, examined about a score of specimens of honey obtained from dealers in St. Louis. He found pollen in some, and detected its absence in others, but he did not discover an evidence of adulteration in any. Those without pollen appeared to be otherwise pure. He took a few specimens to a meeting of the society, and incidentally mentioned the facts recited. A reporter of a daily paper was present and heard his remarks. Some members informally examined specimens, but expressed no unfavorable opinion of them. That was all there was to it.

The next day that daily paper had an article which purported to be an account of the investigation of the subject of honey by the society. The editor of this department never saw the report, never wrote anything

concerning the alleged microscopic examination of honey, but the editor of another department of the *Journal* read it, and deeming it an item in which honey producers would be interested, he reduced it to a short paragraph, handed it to the printer, and it was put in type without this editor's knowledge.

The truth brought out by the Union shows just the opposite of the reported sensation. The editor of the *Journal of Agriculture* adds :

The real facts show how imaginative a reporter may be, and further show that an expert microscopist has been unable to detect an evidence of adulteration in any one of the twenty specimens of honey indiscriminately collected in St. Louis, all of which is to the credit of honey producers, and of retail dealers in St. Louis. We are gratified at so pleasant an outcome to the matter, which had its origin in a grievous misstatement of facts on the part of a reporter.

Just for a moment consider the *facts* in the case : A "druggist" examined a *score* of samples of honey, but *did not find any adulterated !* This he stated at a meeting of microscopists. The sensational-scribbler reported that the St. Louis Society of Microscopists examined several *hundreds* of samples, and found *the majority of them adulterated !* Could lying be more premeditated and pernicious ?

Election of Officers.

At the last election all the old officers were re-elected by over 100 majority. While the General Manager would have been pleased to have seen a new set of officers elected—just to exhibit an interest in the organization —still he would also say that the President and Vice-Presidents have all worked so harmoniously for the general welfare, that it would be next to impossible to find those who would have done better, and we presume that the members of the Union concluded that they could not any better show their appreciation of what has been accomplished in the past, than by re-electing them.

Change of Time for Paying Dues.

It was suggested by several members that the time for paying dues should be changed from July to January, when members would not be too busy to give it attention, and also to take some time to get others to join—July being the most hurrying time of the year. Mr. E. France, when urging the change, said : "I am willing to pay another dollar on Jan. 1, if the time can be changed." This was submitted to the members through the AMERICAN BEE JOURNAL, and all were asked to send a Postal Card who voted against the change. Only three votes against it being received, after repeated notices, the motion was declared to be carried, and the time is accordingly changed.

Financial Statement.

From July to Dec. 1888.

Balance as per last report	$258.27
Received from 239 members at $1.00	239.00
Donations received	.97
	$498.24
Paid Judge Williams, attorney	$150.00
Postage, printing, stationery, etc.	68.86
	$218.86
Balance cash on hand Dec. 15, 1888	$279.38

LIABILITIES.—On the Rich lawsuit the costs are about $1.000, which must be paid as soon as the judgment is rendered, and for which bonds have been given, if the judgment is adverse. The costs on the Arkadelphia case cannot at present be determined.

Concluding Remarks.

Away across the Oceans the Union has been applauded, not only in Europe, but also in Australia. The Editor of the *Australasian Bee Journal*, after giving a resume of the last report of the General Manager, adds : "Long may the Union flourish."

What the Union has done in the past is a guarantee for the future. It may not always triumph over prejudice, envy and ignorance, but it will defend the pursuit, and uphold the right. It is for bee-keepers to say whether it deserves both their moral and financial support or not. If it does, they should render both in unstinted measure. It is to the interest of every individual engaged in the pursuit of bee-culture to do so.

Do the members ever think of what a **power** there is in an organized defense ? and what a powerful defense it is, when those engaged in a pursuit combine and employ the very best legal talent which can be had—and plenty of it—and planting their feet squarely upon the constitution of Freemen—in this "Land of the Free and Home of the Brave"—they demand the rights guaranteed to every "honest son of toil" by that *magna charta* of American liberty and independence—the Constitution of the United States ! ! !

It is not only the **privilege** of apiarists to belong to such a "Union" for defense—but it is a **high honor.** Like the Royal Huzzars of history, the Union has never been beaten ! **Victory** has perched upon its banner in every contest so far undertaken in the defense of the rights of its members ! This is, of course, attributable to the care exercised in canvassing the cases before deciding to defend them ; to make sure that they are RIGHT before going ahead with them ! For if not *right*, it would be better to be beaten than to be victorious.

In submitting this my Fourth Report, I desire to say, as before, that I have done to my utmost all that I could for the success of the Union, and am both ready and willing to give place to my successor as soon as elected.

T. G. NEWMAN, *General Manager.*

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote : White clover 1-lbs., 18@19c.; 2-lbs., 16@17c. Good dark 1-lbs., 15@16c.; 2-lbs., 13@14c. Buckwheat 1-lbs., 14@15c ; 2-lbs., 12@12½c.—Extracted, 7@9c. depending upon quality and style of package. Receipts increasing, but demand still limited. Stock is not selling as freely this season as a year ago.

BEESWAX.—22c.

Nov. 13. S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—It is selling fairly well at 18c. for best 1-lbs. very fancy lots have sold at 20c. Dark and yellow comb sells slowly at 13@16c. Extracted, 7@9c., according to quality and style of package. The stock of best comb honey is light.

BEESWAX.—22c. R. A. BURNETT,

Nov. 22. 161 South Water St.

MILWAUKEE.

HONEY.—We quote : Fancy white 1-lbs., 18@20c.; 2-lbs., 16@18c. Good dark 1-lbs., 16@18c.; 2-lbs., 15@16c.; fair 1-lbs., 12½@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9@9½c.; in barrels and half-barrels, dark, 6@6½c. Market steady and supply ample for the moderate demand, but present values have a tendency to restrict general consumption.

BEESWAX.—22@23c.

Oct. 25. A. V. BISHOP, 142 W. Water St.

NEW YORK.

HONEY.—We quote : Fancy white 1-lbs., 15@17c. 2-lbs., 14@16c. Fair white 1-lbs., 14@16c.; 2-lbs., 13 to 15c. Extracted, white, 7½@8c.

BEESWAX.—23½c.

Sep. 17. THURBER, WHYLAND & CO

NEW YORK.

HONEY.—We quote : Fancy white 1-lbs., 16@17c.; 2-lbs , 13@14c. Fair white 1-lbs., 14@15c.; 2-lbs., 11 to 12c. Buckwheat 1-lbs , 11@12c.; 2-lbs , 10c. White extracted, 8@9c.; buckwheat, 6@7c. Demand good for white 1-lbs. and buckwheat 1 and 2 lbs., of which the stock is light. Good stock of white 2-lbs., with but little demand.

BEESWAX.—22½@24c.

HILDRETH BROS. & SEGELKEN,

Nov. 24. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—White 1-lb. sections, 12@12½c.; 2-lbs., 12@14c.; amber, 8@10c. Extracted, white, 6½@6¾c.; light amber, 6c.; amber and candied, 5½@5½c. For comb honey the demand is light ; for extracted it is good, and market firm.

BEESWAX.—Dull at 18@22c.

Nov. 15. O. B. SMITH & CO., 423 Front St.

DETROIT.

HONEY.—Best white 1-lbs., 16@18c. Supply is not large, but equal to the demand.

BEESWAX.—22@23c.

Dec. 12. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb. Best white comb honey, 12½@16c. Demand slow.

BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.

Dec. 17. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—Choice 1-lb. sections, 18c.; dark 1-lbs., 14c.; 2-lbs., 16c.; dark, 13c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock fair.

BEESWAX.—None in market.

Sep. 27. HAMBLIN & BEARSS, 514 Walnut St.

NEW YORK.

HONEY.—We quote : Fancy white 1-lb. sections, 17½@18c.; 2-lbs., 14@15c. Fair 1-lbs., 14½@15½c.; 2-lbs., 11@12c. Extracted, fancy white clover, 7½@8½. California white in 60-lb. cans, 8c.; light amber, in same cans, 7½c.; amber, 7½c. Buckwheat in kegs and barrels, 5½@6. Cuban, in barrels and ½-barrels, 65c. per gallon.

Sep. 26. F. G. STROHMEYER & CO., 122 Water St.

BOSTON

HONEY.—We quote : Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The sales are good, and indications are that all the honey in the country will be sold by Feb. 1.

Dec. 12. BLAKE & RIPLEY, 57 Chatham Street.

KANSAS CITY.

HONEY.—White 1-lbs., 16@17c.; fair, 14@15c.; California white 2-lbs., 14@15c.; amber 2-lbs., 12@13c.—Extracted, white California, 7½c.; amber, 7c.

BEESWAX.—None in the market.

Dec. 11. CLEMONS, CLOON & CO., cor 4th & Walnut.

ST. LOUIS.

HONEY.—We quote : Extracted in barrels, 5@6c. according to quality; in cans, 7@8c. Comb, 12½@15c. Prices firmer on account of scarcity, though the demand is not great.

BEESWAX.—21c. for prime.

Oct. 17. D. G. TUTT & CO., Commercial St.

SAN FRANCISCO.

HONEY.—We quote : Extracted, white, 6½ cents; light amber, 6@6½c.; amber, 5½c. Comb, white 1-lbs , 13@14c.; 2-lbs., 13c. Light amber 1-lbs., 1.@13c.; 2-lbs., 11@12c. Demand very active for extracted, and fair for comb honey.

BEESWAX.—20@21c.

Nov. 6. SCHACHT & LEMCKE, 122-124 Davis St.

INDEX TO VOL. XXIV.

☞ *The authors' names are given just before the pages indicated, in all cases except what was written by the Editor, discusstons, queries, or matter selected from other periodicals :*

A B C of bee-keeping, 787.....Miller, 599
Abnormal swarming, 38.....Lord. 217
Absconding swarms, ...Irwin, 157—Post, 613
Adulteration of honey, 215, 259, 500, 467, 547, 682—Leers, 265—Dadant, 537 -Newton, 723 - Root. 739—Cook, 794—Harrison, 819—Whan, 819
Affiliated bee-associations.....Holtermann, 141
After swarms .....Harrison 403
Age of bees for winter quarters, 677..... Pond 713
Albino bees .....Moser, 125—Barber, 259, 444—Anderson, 372..... .....Deahl, 572
All in a row—apiarian editors.....Pierce, 707
Anatomy—Chadbock, 44—Cook, 58, 151—Proctor 124
Ancient foolishness about bees..... 788
Ants and beetles gathering honey.....Pammel 635
Apiarist 179
Apiary in a town lot.....486
Apicultural conundrum .....McNeill, 364
Apicultural history and literature..... .....Dibbern, 282.....Staley, 790, 808
Apicultural station.....Colman, 485
Apicultural treasure.....McCormick, 13
Apple-blossom honey .....Cook, 181—Vought, 743
Arkadelphia bee-lawsuit, 4, 403, 841- Clark, 69, 148, 275, 563 — Rudisill, 148 — Harmon & Skinner, 325—Nisbet, 565.....Weber, 691
Army put to flight by bees 744
Arranging sections in a case..... 277
Artificial honey.....691
Autumn, (poem).....727
Autumnal api-thoughts (poem) .....York, 712
Average age of queens .....Groff, 665
Average yield per colony.....710

Baby bees.....Harrison, 650
Badly-stung ....Olney, 163
Balling queens .....Millard, 423—Harrison, 583
Basswood honey .....Harrison, 810
Battle bees (poem)..... 647
Bee-cellars, 486, 518, 582 ..... Pinkerton, 11—Tyrrel, 25—Dibbern, 41,251—Councilman, 56—Hewett, 76—Lockhart, 125—Bridges, 164,—Lindle. 185—Potter, 204.....Harrison, 746
Bee-culture not a fixed science.....Demaree, 455
Bee-diarrhea—its cause, etc..... Pierce, 647
Bee-escape for the extracting room....Lind, 77, Miller, 108—Burton, 108—Dahl, 108,....Babb, 108
Bee-feeders .....Shuck, 102
Bee-hives of long ago.....Hall, 554
Bee-houses, 470.....Breeder, 200—Barber, 604

BEE-CONVENTIONS, 86, 757.....Hall, 553—Cook, 715
Brant, Ont.....Holtermann, 456, 589
Colorado.....Clark, 76, 172, 779
Haldimand, Ont..... .....Campbell, 393, 616
Indiana.....Hubbard, 107
Ionia Co., Mich.....Smith, 200, 240
Iowa .....Nysewander, 650
Maryland, 756.....Reed, 803
Michigan.....Hilton, 766
Nashua, Iowa .....Rouse, 155, 373
Nebraska.....Patterson, 4—Heater, 89, 133
New York.....Knickerbocker, 105, 136, 152
Norfolk, Ont 814
North American, 340, 616, 659, 803—Shaver, 4—Mason, 9, 415, 611, 628 — Langstroth, 415,—Cook, 36—Baldridge, 440 — Hutchinson, 677, 694 ....Tefft, 804
North Middlesex, Ont.....Holtermann, 391
N. E. Ohio, N W. Pa. and W. New York—Coon, 154
Northwestern, of Chicago..... 598
N. W. Ills. and S. W. Wis.....Fuller, 103, 585
Ohio .....Eaton, 4, 86, 683- Bennett, 361
Ontario..... .....Holtermann, 72, 189—Mason, 300
Southeastern Michigan.....Gander, 7
Stark Co., O..... .....Thomson, 100, 298
Susquehanna, Co , Pa.....Seeley, 80, 341
Tipton, Hamilton Co., Ind.....Estes, 187
Union (Ills.)..... .....Smith, 748
Vermont.....Holmes, 29—Douglas, 90
Welland Co., Ont.....Dunn, 173
Wisconsin ....Wilcox, 46, 122

BEE-KEEPING IN—
Alabama ..... Toney, 468
Arizona.....Harmon & Skinner, 524
Arkansas.....Rawlins, 283
Belgium 260
California..... Stocking, 315—Watkins, 824
Colorado.....Willis, 8—Westover, 41
Dakota.....Craig, 389, 668—Hagen, 718
England 548
Florida .....Larsen. 443, 629
Georgia..... .....Prior, 585—Caupbell, 750
Iowa.....Cronkleton, 458
Kentucky.....Tyler, 311—Morris, 764
Louisiana .....Fox, 62
Manitoba..... 51
Missouri..... Graham, 141—Tucker, 201
Nebraska .....Stolley, 74, 701—Gale, 333. 377—Ryan, 457.....Maley, 717
New York..Evans, 348—Stewart, 459—Rogers, 618
Norway.....756
Ontario.....Holtermann, 668
Palestine .....Baldensperger, 59
Queensland..... .....McConnel, 725
Texas.....Carroll, 13, 157—Aten, 186
The South.....Lisenby, 215
Vermont... 564
Washington Ter.....McIlvain, 363
W. Virginia .....Hughes, 252
Bee-keeping taught in school 724
Bee-keeping with other pursuits, 7.....Miller, 27, ... Eaton, 87
Bee-Keepers' reunion song....Secor and Miller, 693
Bee-Keeping as a business, 91, 155, 748—Rosebrough, 203—Miller, 228.....Cook, 794
Bee-Keepers' Union, 456, 499, 547, 515, 581, 643, 694, 739, 804, 841 — Seabright, 45 — Snell, 93, Brown, 115—Meade, 133—Cutes, 156—Clark, 181, 532 — Scofield, 181 — McNeill, 499, 181, Tyrrel, 181 — Little, 186 — Rawlins, 283, Adams. 291 — Doolittle, 388 — Shirley, 483, Pond, 485—Breed, 492—Turner, 492—Addenbrooke, 524 — Goodrich, 524—Gehring, 551, Staley, 552, 771—France, 579 — Millard, 588, Herrick, 604 — Scoles, 620 .....Hambaugh 707
Bee-language ..... Shearman, 714
Bee-lawsuit 724
Bee-literature on a proper basis.....McKnight, 24
Bees and ants as food..... 67
Bees and fruit, 675, 807....Bartow, 40—Barrows, 43—Bomberger, 99.....Secor, 121
Bees and grapes, 35, 180, 276, 611 ...Adams, 12—Lacy, 43.....Olney, 139
Bees and red clover .....Fritz, 93
Bees as barometers 580
Bees as doctors.....Harrison, 745
Bees as educators .....Harrison, 596
Bees clustered on a cow's back .....Jordan, 468
Bees devouring eggs.....Atwater, 806
Bees "don't go home till morning"..... 517
Bees dying .....Jordan, 45—Rawlins, 283
Bees flying in the sunshine—Holden, 266 - Mahin 328
Bees for business..... 153
Bees hanging out.....Dibbern, 536—Harrison, 584
Bees imprison a rattler... 611
Bees in a house 403, 500
Bees in the Museum Zoo, 691.....Wrigbt. 739
Bee-smoker .....Hachenberg, 520, 792
Bees now in fashion 724
Bees "of color" underestimated.....Gehring, 551
Bees on scales.....Kauffman, 584
Bee-spaces and bars in hives..... 54
Bee's soliloquy (poem) .....Jamieson, 396
Bee-stings, 646, 771—Wilson, 252—Dibbern, 282—Cook, 523—Malone, 524—Jewett, 617—Atwater 806
Bee-story..... 596
Beeswax, 339, 566 .....Shallard, 195—Dibbern, 644 .....Hachenberg, 792
Bee-veil.....Hachenberg, 520
Benton queens .....Shallard, 724
Big words..... .....Sanborn, 195

BIOGRAPHICAL—
Bingham, T. F..... .....21, 117
Gravenhorst. C. J. H.....Stachelhausen, 741
Haine, J. B..... ... Bennett, 373
Hilton, Geo. E..... 5
Hruschka, Francesco de.....Dadant, 533
Langstroth, Rev. L. L.....Pond, 53
Mason, Dr. A. B... ...Mrs. Mason, 453
Todd, Arthur.....Shallcross, 149
Young, Ivar S..... 37
Youngman, S. J..... 261
Birds that perforate flowers.....Pammel, 635
Birthday bees..... 660
Bottom boards and covers.....Roulo, 292
Bogus butter in England..... 28
Brace-combs..... .....Heddon 140
Breeding and crossing bees.....Cook, 220
Breeding early..... .....Stolley, 109—Frame, 157
Breeding for business..... .....Duff, 404
Breeding to eradicate swarming propensity..... 661
British honey company..... 389
Brood-chambers full of honey.....Dibbern, 701
Brood-combs large or small?.....Heddon 107
Bumble-bees for Australia. 117
Building combs.....166, 278
Burying bees 456

California honey crop, 387, 419, 501, 581, 595, Schuet & Lemcke, 132—Watkins, 632....Alles, 651
California raisin-growers..... 457
Canadian bees and honey..... 372
Canadian locomotive..... 109, 125
Candied honey in combs....Stout, 163—Goodale, 204.....Kellogg, 725
Candy for winter feeding..... 803
Canning honey 100
Cans for extracted honey..... 452
Capping brood.....Doolittle 567
Carbolic acid vapor and bees..... 68
Carbolized sheet..... .....Raynor, 403
Carniolan bees, 35, 277, 324, 787 ...Carman, 188—Benton, 329, 519—Group, 519—Dibbern, 536—Ambrozic, 19 — Morrison, 84, 765 — Watkins, 824
Carpenter bees and flowers..... .....Pammel, 634
Carrying honey above the brood.....Roop, 187
Carrying out brood.....Doudna, 28
Cartoon of bee-men..... 564
Caves for bees....Gibson, 42—Rensch, 75—Stark, 364
Caucasian or Circassian bees..... Tefft, 426, 508, 778
Cause of honey-crop failure..... 772
Cellar-wintering of bees.....Harrison, 796
Chaff cushions ....Miller, 729
Chaff hives, 438, 680.....Kirkpatrick, 268
Charming May (poem).....Latham, 327
Cheap queens..... .....Shaver, 252
Chick-a-dees killing bees.....Evans, 349
Children in the apiary.....Barlow 45
Chilled brood .....Stewart, 380
Chloroform to quiet bees, 742.....Woodward, 807 ..... Kirby, 823
Christmas weather proverbs..... 820
Cincinnati apiarian exhibit, 451.....McLain, 421
Cider for winter stores 740
City and country life..... 276
Clamp for wintering bees 285
Clean section of comb honey..... 821
Cleansing combs .....Dunlap 77
Cleansing flights for bees .....Styer, 109—Cates, 156
Clergymen and bees 131
Clipping queen's wing—Blachly, 405—Cadwallader 475
Close spacing .....Pond, 373
Clouds and sunshine (poem).....Gleason, 745
Clover dodder.....Langstroth, 532
Cod-liver oil and honey..... 147
Colony's care for its queen..... .....Staley, 791
Colorado climate..... ....Harrison, 718—Cook, 739
Colors and bees, 772....Chaddock, 700, 776—Cook, 747, 804.....Pammel, 838
Colors of flower species ..... Pammel, 634
Columbus honey exhibit.....Mason, 283, 759, 773
Comb foundation, 277, 3 4, 595.....Doolittle, 23, Faris, 173 — Hines, 188 — Gravenhorst, 284, Graden, 298.....Woodward, 698
Comb honey, 137, 154, 595, 694—Hall, 72—Evans, 349—Churchill, 343—Dibble, 587,—Woodward. 744
Comb honey *vs.* extracted..... 746
Combining bee-keeping with what?.... Dibbern. 392
Comb or wax becoming honey.....Glass, 189
Comb surface. 419—Weidman. 407, 476—McNeill, 444
Commission men, 675....Standish, 572—Gehring, 617
Conglomeration (poem)..... .... Olney, 729
Contraction, 166, 262.....Reynolds, 215—Heddon, 395
Controlling the honey market.....Aspinwall, 363
Cork for winter packing, 147.....Howe, 99
"Corner" in honey.... Lind, 52—Knickerbocker, 627
Cotton's (Mrs.) circular.....McKown, 147
Cotton-seed for winter packing .. ..Crowder, 316
Cremation of bees..... 355
Crate for reversible hive.....Keeney, 62
Crop reports..... .....Sweet, 196
Crowding frames together.....Woodward, 698
Cuban apiary.....Poppleton, 437
Cyprian bees.....Benton, 329

Dark side of bee-keeping.....Ryder, 371
Dead brood ....Hill, 552
Dearth of nectar from drouth ..... Scott, 75

DEATH NOTICES—
Atwater, Mrs. S. B... 806
Cattell, Hon. J. W..... 565
Clark, Miss..... .. 413
Grinsell, Richard 99
Hendrick, Mrs. Catharine..... 627
Jenyns, Rev. C. F. G..... 131
Judson, Dr. Benj 357
Jules, Mons. Alex..... 419
Landon, E. W..... 508
Miller, Mrs..... 773
N. A. B. K. Society..... 755
Stennett, Mrs..... 100
Titus, Mrs. Eliza..... 115
Todd, Arthur 115
Tupper, Mrs. Ellen S..... 179
Tyrrel, F. Y..... 516
Von Hruschka, Maj. F..... 419
Williams, T D..... 421
Wolcott, Jno. L..... 4
Wood, Samuel B..... 660

Defenders and fighters of a colony—Hachenberg 793
"Dehorning" bees.....Harrison, 57
Diabetes and sugar-eating.. 307
Difference in worker-bees' energy..... 570
Digested nectar.....Demaree, 568, 633—Cook, 602
Dimensions of hives, 85.....Roebuck, 187
Diseased colonies... .....Blanchard, 204
Discussion of apicultural topics.....Tinker, 330
Disposing of honey 708
Disturbing bees, 182.....Hutchinson, 52
Divided colonies..... 406
Dividing swarms .. ..Hubbard, 451
Division-boards.....Abbott, 536—Miller, 728
Do bees hear?. ...Doolittle, 567—Demaree, 632, Shuck, 662 .....Shearman, 714
Doolittle and bee-conventions..... 771
Doolittle's report for 1888..... 697
Dot Happy Bee-Man (music)..... Secor and Miller, 732
Double-walled hives and supers..... 454
Doubling up swarms..... ... 652
Dreary winter (poem)..... 805
Drinking-water test..... 596
Drone-brood 182
Drone-comb..... Pursel, 45—Irwin, 268
Drone-laying queens..... .. 141
Drones, 374, 580—Langstroth, 55, 119, 219—Morris, 332—Lyman, 357..... .....Staley, 791
Drones entering different hives..... 342
Drunken loafers..... 35
Dying year..... 838

Early swarms.....Patterson, 316— Miller, 331— ..... Hambaugh, 363
Educate the opposition.....Adams, 291
Egyptian apiary..... 549
Ekes and nadirs, 197.....Dadant, 295
Empty combs, 22, 243 .....Roop, 187
ENEMIES OF BEES, 676—
Ants, 756.....Dibbern, 522—Cook, 563, Benton, 766
Chick-a-dees.....Smith, 380
Coddling-moth .....Beath, 169—Cook, 169
Moths — Doudna, 71— Doolittle, 221—Hinkley, 275..... .....Gile, 277
Roaches, 819 ....Dibbern, 522
Spiders 275
Entrance controller.....Tyrrel, 196
Escort bees 278
Evolution in bee-keeping..... .....Haggart, 359
Experiences with bees, Congdon, 28—Westover, 41—Morris, 121—Breeder, 200—Bontwell, 251, Willis & Son, 285—Herrick, 376 — Netherton, 459—O'Dell, 460..... .....Harman, 718
Experiments in apiculture, 681, 724.....Dibbern, 282—Boerstler, 285, 324 — Alves, 311— Cook, 323—Doolittle, 375—Chaddock, 392—Utz, 410, McLain, 472, 487 — Pierce, 648—Holtermann, 683—Woodward, 698—Pettit, 745....Waldron, 826
Extracted honey, 154, 324, 789.....Malcolm, 72, Holtermann, 152—Mason, 228—Cullinan, 310, Young, 343..... .....Duff, 587
Extracting, 748—Young, 342—Gehring, 550 Dibbern 763
Extracting honey from the brood-nest..... 742
Extracting wax..... .....Dibbern, 644
Eye opener..... 613
Eyes of bees..... .....Staley, 791

Fair exhibits of bees and honey.....Mason, 619
Fall care of bees..... .....Muth, 600
Fall flowers—Cushman 549—Harrison 676—Sanders 717
Fall honey for winter stores.....Harrison, 692
Fall work in the apiary.....Holtermann, 648, Dibbern, 700 — Harrison, 713, 745 — Jenkins, 730
False charges..... 215
Farm apiaries..... .....Sanford, 425
Fastening foundation, 163—Rowe, 13—Eden, 27, 171 Haag, 42—Reynolds, 76—Rosebrough, 124—Fox 139, Gifford, 153—Cram, 165—Tucker, 201—Evans 348

Fastening frames in hives.....Hachenberg, 193
Feeding-back honey.....595, 644
Feeding bees, 51, 155, 166, 275, 293, 569.....Stockwell, 8—Maley, 157—Peck, 244—Goodno, 412—Hutchinson, 603—Miller, 712.....Stout, 782
Feeding sorghum molasses 134
Feeding sugar to bees.....105, 642
Fertility of queens.....Andrews, 268
Fertility of perforated flowers .....Pammel, 635
Fertilization of queen—Goodspeed, 137—Andrews 204
Fertilizing the clover.....215
Finding honey.....Barnard, 570
Finding the queen.....Waring, 251—Doolittle, 503
Fire—loss by.....Rickard, 20—Breeder, 200
First swarms.....Harrison, 405
Five-cent packages of comb honey.....Harmer, 292, 820.....Olney, 452
Florida honey crop.....Alderman & Roberts, 707
Fogy bee-keepers.....Staley, 506
Food adulteration.....756
Foreign bees .. ..Benton, 519— Cushman, 539
Foul brood, 19, 68....Davis, 43—Beall, 133—Smith, 153—Wendelken, 197—Barnhart, 200 — Klintworth, 345—Lord, 469—McLain, 472, Aldrich, 501
Foul-broody hives and frames.....218, 277
Foundation Fastener .....Alpaugh, 125
Frames—distance apart .....Hachenberg, 520
Frame-hook.....Hachenberg, 320
Frames of brood .....Harrison, 584
Fraternal relations of bee-editors.....260
Freaks of queens and bees—Weeks, 268—Wilson, 519
Free-trade and honey 277
Freezing bees.....Haines, 36
Frequent flights for bees .....Barb, 149
Friend of the bees.....691
Frozen foundation.....Ridout, 668
Full sheets of foundation in the brood-chamber, 91
Fumigating combs and honey.....Lattner, 40—Pierce, 603—Head. 373 .....Miller, 651

Gathering honey in January.....Burnett, 116
German bee-societies 723
Giving credit for selections.....67
Good location for bees — Douona, 71—Edwards, 124
Government of bees.....Pigg, 540
Grading Florida honey.....Webster, 679
Granulation of honey, 101, 218.....Harrison, 810
Grape-bloom honey.....Cook, 649

Hardiness in bees.....Tefft, 779
Handling bees .....Stahl, 393
Handling honey 746
Hatching bee-eggs.....Groff, 665
Heat and cold endurable by bees.....Craig, 149
Heddon hive, 253.....Tinker, 474—Heddon, 490
He forgot 389
Hibernation of bees, 259.....Latham, 167, 313—Clarke, 221 .....Malone, 357
Hill's device.....Ball, 501—Harrison, 746
Hints for March.....Trendwell, 132
Hive entrances, 22.....McCrum, 61—Gile, 421
Hive experiments.....Alves, 311
Hives and frames.....Boerstler, 45—Doolittle, 823
Hive-standards.....Barrows, 251
Hiving back swarms.....Doolittle, 222
Hiving bees on Sunday.....534
Hiving swarms, 358, 518, 726 ..... Hellems, 248—Stapler, 325 — Sherman, 332 — Taylor, 345—Harrison, 397 — Smith, 476 — Dibbern, 522—Daniel, 563—Seely, 733.....Arwine, 740
Holding the breath to prevent stings, 613.....Hammersmith, 389, 413, — Cook, 548—Secor, 551—Demaree, 568 .....Cheasbro, 572
Holy-Land bees.....355
Home-made honey-extractor 748
Honey analyzed.....164
Honey as food, 261, 580.....Staley, 790
Honey at fairs .....Harrison, 725
Honey at Jewish feasts.....Neighbour, 724
Honey-bee and the grapes (poem).....York, 518
Honey-bee—its anatomy, products, etc..Abbott, 223 .....Hastings, 489
Honesty in bee-keeping.....Klintworth, 507
Honey-boards, 422, 470....Lossing 165—Heddon, 267, 395.....Shuck, 297
Honey by the barrel.....276
Honey-cakes .....Tefft, 468
Honey-candy.....Drummond, 292
Honey-crates .....Stewart, 507
Honey crop of Great Britain 631, 729
Honey dew (poem) .....Secor, 147
Honey-dew and manna .....Lindle, 186
Heney-dew for winter stores, 68, 694.....Hilton, 99
Honeyed man, 579.....Miller, 615
Honey extractor.....Clarke, 104
Honey for bees in winter.....Lee, 268
Honey for the liver.....Smith, 27, 77
Honey for surplus and brood-rearing.....582
Honey from corn.....Crouley, 524
Honey from different flowers.....650
Honey harvest, 500.. .....Demaree, 485
Honey-house.....Elliott 243
Honey-jumbles (poem) 616.....Root, 787—Miller, 828
Honey of different colors .....Dibbern, 700
Honey on the bill of fare.....Huntley, 307
Honey-plants, 105.....Doudna, 71—Dunlap, 77, Hess, 156 — Sherburne, 171 — Sievert, 266, Secor, 312 — Smithers, 364 — Cover, 405, Stewart, 459—Dibbern, 701.....Shaner, 839
Honey-plants of Florida.....Webster, 778
Honey quotations.....Catterson, 77—Muth, 636
Honey transformation 357
Honey trusts, 84....Miller, 109—Knickerbocker, 627
Honey turning to sugar.....739
Honey-vinegar, 67.....Hachenberg, 521
Honey-yield in different localities..... ....Howe, 717
Horse stung by bees.....Staley, 791
Horticulture and bees, 708—Cook, 36—Secor, 120, ...Hilton, 295
Hot summer.....452
House apiary, 300.....Wilson, 252
How bees gather pollen.....Staley, 791
How bees make cells.....468
How to prevent winter losses.....Secor, 469
Humorous .....Pierce, 648
Hunting bees, 756.....Stephens, 188
Hybrid bees.....Rogers, 185

Ignorant bee-keepers.....Israel, 195—Tefft, 588
Illinois State fair—Rosebrough, 668—Williamson 718
Improvements in bee-keeping.....Boeae, 699
Impure food theory of bee-darrhea..... Pierce, 647
Increase, 746—Young, 343—Harrison, 397—Morgan 6 4
Indian summer (poem).....Browne, 758
Influence (poem). .....Secor, 730
Injurers of bee-keeping.....Staley, 505
Insuring bees...Waldron, 8—Lindle, 55—Councilman, 56—Stevenson, 61—Miller, 77.....Hulett, 152
Interesting library.....Brillhart, 35
International bee-society.....Miller, 136
Introducing queens.....Buller, 165
In union is strength (poem).....Buck, 183
Inventors' hardships and triumphs.....Staley, 506
Investments in bee-keeping.....468
Irresponsible 644
Italian and Carniolan crosses.....Watkins, 824
Italian bees.....Doolittle, 775
Italianizing bees.....Williams, 540—Gehring, 551
Italian queen-breeders.....Blow, 824
Italians *vs.* common bees.....Sherburne, 171

June roses (poem).....375
June bees and flowers (poem).....Adams, 439

Keeping a record of each colony...Hachenberg, 520
Keeping bees in the hive.....Pettit, 745
Keeping bees on shares.....51
Keeping comb honey, 595.....Moyer, 691
Keeping honey from candying.....781
Kentucky hives .....Demaree, 184—Tyler, 312

Langstroth's annuity, 404, 435, 515, 668, 519, 835—Heddon, 93 379—Miller, 483, 787—Am. Expert 483
Langstroth hives and frames...Stone, 124—Ball, 157
Large hives and frames—Leach, 12—Hambaugh, 199, 279—Heddon, 201, 395—Davis, 299—Camm, 346
Larval bee-food.....666
Larval bees .....Cook, 440
Late extracting.....650
Late spring.....Stokes, 357
Laying capacity of a good queen.....Doolittle, 439
Laying eggs in royal cells.....758
Laying workers.....Roese, 553
Legislation for bees—Willer, 282, 408—Camm, 346—Miller, 583, 662, 777 — Dibbern, 777 — Tefft, 838
Length of bee-life.. 777
Lennox, Ont., fair.....709
Lessons of the season, 679 ...Swezy, 103—Cook, 794
Light cellars—Ball, 62—Bingham, 106—Youngman 156
Linden honey .....Harrison, 492
Location of an apiary 118, 326
Long confinement of bees.....Malone, 341
Longevity of bees, sheep and bens 83
Look at your wrapper label.....645
Loss of bees by freezing.....Hall, 555
Lowest temperature when bees work....Haskin, 123

Mailing queens, 357, 339, 483 ..... Morrison, 355, 380
Making hives, hand-holes, etc..... 134
Management of bees.....Waldrnn, 555—Dibble, 587
Mangrove and palmetto honey..... 679
Manipulation of reversible hives....Langstroth, 294
Manufactured comb honey, 308, 356, 404, 421, 457..... ....Wiley, 436
Maple-trees and bees, 616.....Chaddock, 826
Marketing honey, 138, 155, 469..... Gander, 8—Baldridge, 149— Foster, 156 — Wilcox 165—McKnight, 230—Henderson, 244—Muth, 249—Harmer, 292—Aspinwall, 363—Dibbern, 392, 763, 772—Hachenberg, 521 — Mason, 552 — Plummer, 555—Doolittle, 567—Knickerbocker, 597—Gehring, 617—Root, 743.....Hambaugh, 795
Marking the hive of a mating queen.....326
Marks of purity in bees.....Lynn, 133
Mating of queens, 438, 680 ....Groff, 665
May flowers (poem).....359
McKnight's honey exhibit.....660
Medicinal properties of honey.....Grimshaw, 423
Metal rabbets, 309 .....Latham, 508
Methods and implements.....Hachenberg, 519, 792
Migratory bee-keeping.....Tucker, 717—Cook, 794
Minorcan queens 548
Moisture and bees, 772.....Singer, 716—Taylor, 793
Molasses barrels and jugs for honey.....Erkel, 684
Mold in bee cellars.....101, 502
Molds for making foundation, 243..Doolittle 23—Faris, 173.. .....Graden, 298
Month of April (poem).....Secor, 263
Mortality of bees in winter.....502
Moss for winter packing.....755
Movable-comb hives.....Hall, 554
Movable-frame hive.....Staley, 506
Moving bees, 6, 69, 726—Harrison, 20, 840—Ginter, 165—Pinkerton, 204—Erkel, 244—Stringer, 412—Hill, 425—Hachenberg, 519.....Gehring, 551
Musty combs 308, 325
Mysteries of bee-keeping.....Harrison, 57

Nature's way of managing bees, 197....Vandruff, 168—Pond, 264.....Doolittle, 323, 375
Nebraska bee and honey show.....Heater, 628, 822
Nebraska bee-pasturage.....Gale, 377
Nectar of flowers.....Stewart, 501—Harrison, 809
Never strike a bee.....Arwine, 725

NEW BEE-BOOKS AND PERIODICALS—
A B C of Bee-Culture 787
Bee-Keepers' Review 36
Bees and Bee-Keeping 116
Book of Bee-Keeping 419
British Bee-Keepers' Guide-Book 243
Cook's Manual.....675, 755, 780
Free Lance.....Secor, 223
Langstroth's Hive and Honey-Bee 803
Queen Breeder's Journal 803
Welsh Bee-Book 563
Western Bee-Keeper 116
Simmins' Modern Bee-Farm.....Cushman, 58

New Constitution and By-Laws, ...695, 708 Miller, 711—Cook, 740.....Holtermann, 747
New honey-resources.....Cook, 794
New invention—comb foundation, 244, 595—Dahl, 148
New Year's open door (poem).....Park, 7
Nuclei colonies .....Shuck, 443
Number of frames, 85, 246.....Roebuck, 187

Obtaining sweets in the middle ages.....Hills, 381
October days (poem)..... 709
Odors and bees, 765.....Chaddock, 776—Cook, 804
Ohio centennial exhibition.....Mason, 123, 759, 773
Oil-stove in a bee-cellar. .....Lockhart. 125
Objects and work of queens and bees.... Gerry, 376
Old combs—Cleary, 692—Holtermann, 649—Maley 810
Old-fashioned bee-hive .....Marks, 203
Old foundation in sections .....Solveson, 125
Old phogy bee keepers.....Lighty, 361
Old queens, 772.....Harrison, 667
Oleomargarine and honey, 691.....Root, 739
One-piece section decision..... .....275, 291
Open-side sections, 467, 499, 680.....Baldridge, 136
Organization among bee-keepers..... 681
Origin of honey .....Heddon, 600
Origin of the honey-bee.. .....Robinson, 727
Our friends, the flowers (poem)... .. .Williams, 435
Over-stocking and populous colonies...Dibbern, 331—Adams, 476.....Tefft, 838

Packing bees, 278....Ran, 11—Seabright, 45, 165—Klemow, 61—Styer, 109 — Bartow, 203 — Buchanan, 328 .....Gehring, 550
Painting hives, 295.....Stockwell, 9—Blanchy, 405
Paris exposition, 692, 709.....Riley, 788
Parthenogenesis .....Hanbury, 712
Partly-filled sections, 51, 138.....Theilmann, 25—Stewart, 57.....Hohnadel, 125

PASTURAGE FOR BEES, 88, 682, 707, 747.....
Chaddock, 892—Jackson, 440.....Green, 535
Alfalfa, 68, 245 Willis 8—Westover, 41—Muth-Rasmussen, 183—Jarvis, 285.....Thielmann, 339
Alsike clover, 613.....Baldridge, 10, 41, 132—Lindle, 55—Bates, 115—Campbell, 157—Morris, 169—Hicks, 264—Stanford, 300— Secor, 313, 476—Stokes, 540—Hutchinson, 548....Bunch, 684
Apple-bloom.....Damarin, 389
Asters..Picket, 61—Cushman, 569—Roese, 629—Deadman, 717 .....Prior, 766
Basswood, 451, 564.....Read, 11, 217—Lee, 44—Cates, 123—Burton, 476 .....Scott, 572
Blooming curiosity.....Bell, 620
Buck-bush.....Prime, 156
Buckwheat, 708, 709, 725..Becker, 476—Youngman, 583—Rogers, 694— Miller, 615 — Seeley, 629—Moyer, 629 — Park, 629 — Bunch, 684 — ..... Stewart, 759
Button-ball.....Shuck, 804
Chapman honey-plant, 1 0, 308.....Secor, 313—Highbarger, 325, 468—Keeler, 355 — Buckley, 373—Burton, 419—Curlee, 444 — Kirkpatrick, 508—Green, 535—Bacon, 596.....Chapman, 620
Cone-flower.....Todd, 579
Corn .....Riggins, 469
Culver's physic..... Dibbern, 540—Waterman, 572
Dandelion .....Merritt, 380
Eucalyptus.....Pryal, 164
Figwort—Waterman, 572—Harrison, 644—Russell 649
Gay-feather .....McDaniel, 620
Golden-rod, 723....Pickett, 61—Cushman, 569—Bates (poem), 614.....Roese, 629
Grape-bloom .....Cook, 649
Heart's-ease .....Martin, 588—Haskins 628.....Flanagan, 812
Hedge-hyssop.....Coleman, 620
Honey locust 597
Japanese buckwheat.....Kentch, 772—Cook, 838
Lucerne .....Hone, 317
Mangrove.....Webster, 678
Melilot .....Bates, 115
Melissa, 735.....Tyrrel, 749
Mignonette.....Griffith, 717—Waring, 782
Mustard .....Prior, 405
Palmetto 707
Pepperage .....Bennett, 718
Pleurisy-root..... Becker, 476—Heddon, 643
Poison-ivy .....Sample, 437
Rasoberries, Harmer, 13—Newman, 28—Shabk, 380
Red clover.....Fritz, 93
Skunk-cabbage.....Doolittle, 300
Sneeze-weed .....Stephenson, 812
Spanish-needle .....Hambaugh, 684
Sweet clover, 115, 387, 773...Davis, 27—Hilling, 44—Hone, 317 — Dibbern, 535 — Waterman, 572.....Park, 629
Verbena .....Todd, 579
Water-leaf.....Cory, 405
White clover...Reed, 11—Doudna, 71—Thorne, 141—Fleming (poem) 343—Bittenbender, 389—Burton, 419.....Miller, 615
Wild basil.....Curlee, 540
Wild cucumber .....Hanson, 834
Wild rice.....Hewett, 836
Patents and inventions .....Taylor, 731
Pear honey.....68
Peculiar queen and colony.....Rawlins, 341.....Kellogg, 556
Phenol for foul brood.....Beall, 133
Photography and bee-keeping.....Walrath, 796
Placing colonies close together..... .....Haven, 292 .....Barrows, 492
Planting for honey, 749.....Ridenour, 268—Hutchinson, 372.....Cook, 794
Planting trees, 774.....Cook, 675
Pleasant cities, 596..... Puhl, 547—Gehring, 551—Demaree, 568—Prior, 585 .....Miller, 615
Pleasures and difficulties of bee-keeping... 91
Points in breeding bees.....Duff, 131
Poisoning bees, 457.....Lattner, 40—Bombarger, 84.....Olney, 139
Pollen and sugar candy.....Sherington, 99
Pollen as food for bees.....Doolittle, 22 —Cook, 264
Pollen in the sections.....Heddon, 395
Pollination and perforation of finwers..... Pammel, 633 .....Staley, 791
Postal reform 676
Poultry and bees.....Cates, 123—Coffman, 189
Preparing bees for winter ....Bates, 75—Abbott, 536 — Hill, 612 — Roese, 698— Singer, 716 — Miller, 728—Harrison, 772.....Hutchinson, 820
Preparing feed for bees.....Dibbern, 282
Preparing honey for market.....Dibbern, 700
Preservation of apples..... 21
Preventing stings .....Wilder, 467

Prevention of increase, 91, 198, 246, 394, 406.....
Jones, 407 — Elwood, 427 — Dibbern, 535 —
Woodward, 608—Smith, 781.....Hambaugh, 795
Prodigal—that didn't return (poem).....Secor, 584
Progeny of unfertilized queens.....Groff, 665
Prolific queens.....309
Properly attending to bees.....McDonald, 29
Propolis in Michigan.....Clark, 666
Protecting hives from heat, and cool nights..... 85
Pure bees are best..... 581
Pure honey.....Armstrong, 797
Pure Italian bees.....Campbell, 572
Purely-mated queens..... 454
Putting bees into cellars, 20.....Lyman, 170—
Doolittle, 764—Harrison, 795.....Waldron, 826
Putting bees into winter quarters..... 679
Putting bees out of cellers, 681.....Pierce, 203
Atwater, 26*—Le Fevre, 389.....Davenport, 325
Putting sections on the hives.....
Smith, 153.....Doolittle, 775
Puzzling colony .....Mathews, 28

Quality of winter bee-food.... .....Pierce, 647
Queen-cages.....Tucker, 172
Queen-cells that do not hatch..... 598
Queen-excluding honey-boards, 150, 293.422,570—
Trumper, 45—Heddon, 396—McIntyre, 444—
.....Kruschke, 584
Queenless colonies, 380, 435.....Smith, 357—
Graves, 364 — Stith, 504, 602 — Hutchinson,
521—Greiner, 538 .....Wendelken, 556
Queen-lessons in governmeot.....
Hachenberg, 811 .....Alves, 839
Queens from the South.....Graves, 163
Queens laying in royal cells and sections, 6, 550—
Hubbard, 613.....Doolittle, 630
Queen that stings her rival..... 758
Questions for replies .....Hewett, 42, 120—
Feathers, 120.....Stewart, 120

Race between pigeons and bees.....692, 820
Races of bees, 780.....Evans, 349—
Lyman, 532 .....Bunch, 580
Rearing brood.....Cheshire, 596
Rearing pure bees.....Hanburg, 712
Rearing queens—Higgins, 57—Doolittle, 135, 323—
Ford, 139 — Poppleton, 248 — Crouse, 252 —
Pond, 297 — Barrows, 300 — Johnson, 330 —
Shuck, 344, 443—Evans, 349—Demaree, 455—
Balch, 470 — Tefft, 556— Alley, 599 — Clark,
666.....Martin, 714
Records of queens..... 309
Removing sealed larvæ.....Shuck, 443
Removing surplus honey.....Harrison, 714
Removing the queen to secure more honey..... 710
Reproduction of the honey-bee.....
McLain, 487 .....Groff, 663
Rent of an apiary..... 661
Re-queening colonies..... 747
Reversible bottom-boards.....Goodrich, 204
Reversible frames, 150.....Tefft, 426
Reversible hives.....Cullinan, 39—Crocker, 137,
188—Bull, 184.....Langstroth, 294
Reversing..... 630
Reversing combs in extracting.....Hachenberg, 792
Rheumatism and bee-stings...Councilman, 108—
Graves, 217..... .....Staley, 791
Rhode Island apiarian exhibits..... 660, 676
Rich bee-lawsuit..... 4, 457
Riddle.....Keeler, 355
Rights of bees.....McNeill, 586
Ripening honey.....Evans, 348
Robber bees, 261, 277, 405, 725, 781 .....
Little, 308 — Lyman, 444 — Jenkins, 538 —
Hachenberg, 793.....Staley, 808
Room for brood.....Barber, 444

Salivary glands of bees.....Cook, 441
Salt for bees.....Barrows, 380—Urie, 451
Sand instead of bottom-boards..... 723
Saved by bees..... 643
Saving honey by removing queens.....Stith, 504,
602—Hutchinson, 521.....Greiner, 538
Sawed sections .....Van Vechten, 141
Sawdust around hives..... 821
Sawdust for pollen, 243.....Wilkins, 203
School of sorrow (poem).....Ludlum, 37
Seasonable hints, 580.....Harrison, 196, 310, 372,
379, 516—Dibbern, 331, 391, 612.....Stahl, 393
Season in Canada..... 644
Season of 1888.....Stephens, 825
Second swarms.....Dibbern, 522
Sectional brood-chambers..Tinker, 86—Heddon,
107, 140..... Baldridge, 136
Sectional hive—histnrical.....Baldridge, 281
Sections for a beginner..... 277
Section-cases, 805.....Evans, 349
Selling nectar on land.....Camm, 346
Sense organs of bees..... 612
Separators and sections ...Gile, 277—Besse, 331—
Evans, 349.....Brudish, 92
Sex of bee-eggs, 566.....Demaree, 604—Morgan, 645
Science criticised .....Cook, 602
Shading hives.....Holtermann, 152
Shaking or palsy bee-disease.....
Middlebrook, 332.....Waring, 782
Shallow brood-frames.....Baldridge, 136
Shipping bees, 499, 612.....Youngman, 124—Hill, 315
Shipping-crates.....Heddon, 505
Shipping honey.....Doolittle, 567
Silver lining to the clouds..Malone, 419—Mason,
550—Barrows, 579—Harrison, 644—Armstrong, 797
Size of brood-chamber.....Doolittle, 327
Small hives vs. large hives.....Davis, 170, 299—
Hambaugh, 199—Heddon, 201..... Dadant, 247
Smoking bees, 749....Stahl, 393—Bingham, 411—
Kinsel, 782.....Atwater, 806
Snow around hives.....Dibbern, 41
Song of the bees (poem).....Aiken, 119
Space around frames 390, 422
Space for bees to cluster..... 262
Spacing brood-frames 774
Specialists in bee-keeping.....Miller, 26—Balch, 76
Spraying orchard bloom.....Warner, 812
Spraying swarms.....Stapler, 325—Barrows, 492
Spreading brood in the spring..... 91
Spring (poem).....Hayne, 279
Spring dwindling.....Dibbern, 391—Haskin, 412
Spring work in the apiary, 230.....Hicks, 264—
Dibbern 281—Harrison, 310.....Demaree, 827
Squeezing blood from a turnip.....Moyer, 419
Starved brood.....McLain, 487
Statistics of bee keeping, 131, 179, 259, 516, 707,
740, 771...Young, 119, 203—Dodge, 132—Cook,
147, 244—Dunn, 147 — France, 163 — Wilcox,
181—Mills, 195—Davenport, 249—Sweet, 266—
Stone, 277.....Moyer, 307
Stealing honey by bees.....Wright, 409
Sterile queens.....Pardee, 452—Luce, 524
Stinging bees, 613.....Jewett, 617
Stinging the cappings of cells, 598.....
Shuck, 614.....Miller, 651
Straight combs, 837.....Miller, 607
Strong colonies .....Gifford, 444
Stung by bees..... 420
Sugar and honey used 740
Sugar from honey, 451.....Alley, 371
Sugar-pronuncing tree..Proxmire, 164—Poppleton 325
Sugar suited for bees..... 632
Sugar syrup granulating.....Ashby, 812
Summer work of bees (poem).....York, 551
Sundry questions.....Morse, 405
Supers.....Peek, 244—Cullinan, 339
Superseding queens, 309.....Lyman, 243—
Stewart, 459.....Poppleton, 471
Superstitions about bees..... 645
Surplus stories..... 581
Swarm-catchers, 275.....Dunlap, 125—
Graden, 317—Morrison, 420 — Maoum, 420—
Hachenberg, 520 .....Seely, 733
Swarming, 23, 38, 406, 650, 694, 747.....Thornton,
74—Hodges, 124—Maley, 157—Irwin, 157.268—
Rogers, 185—Hand, 250—Pond, 297—Duff, 340
—Loadon, 356—Graves, 364—Loveland, 394—
Curlee, 444—Demaree, 456, 633 — Aaderson,
459—Poindexter, 504—Latham, 536 ....Smith, 781
Swarm on a man's hat..... 501
Swarming out.....Reese, 299
Swarm with two queens.....Ferree, 133
Syrian bees.....Guenther, 261—Mahin, 328
Syrio-Albino bees.....Meeker, 61

Taking lessons in bee-keeping..... 723
Taxing bees.....Davis, 189
Temperature of bee-cellars.....Hastings, 12—
Tyrrel, 25 — Hewett, 76 — Stephens, 93 —
Crouley, 171—Hand, 251—Beath, 202—Potter, 204
Temperature when bees fly.....67, 166
Test of foul brood.....Dayton, 570
Texas honey-plants.....Bell, 675
Thanksgiving (poem).....Winthrop, 775
Theory and practice of bee-keeping.....Tefft, 836
Thin foundation for comb honey.....Sage, 488
Three-sided hive.....Chalmers, 340, 412
Tiering up, 358, 613...Cullinan, 403—Gifford, 444,
652—Doolittle, 601.....Demaree, 827
Toronto honey exhibit..... 660
Transferring bees, 54..Reynolds, 76—Rogers, 185
—Heddon, 186—Robbins, 222.....Hill, 313
Traveled bumble bee (poem)..... 566
Two colonies in one hive..... 789
Two-ounce sections, 355.....Harmer, 292, 820

Uncapped sections of honey.....Lovett, 517
Uncapping combs for extracting..... 630
Uncle Sam's national flower..... 643
Uneasy bees in the cellar .....Cissnan, 92
Uniting colonies, 616, 747..Smith, 357—Williams,
540—Harrison, 731—Robbins, 796—Woodward, 807
Uniting hybrids and Italians.....Whitmer, 125
Unknowable in bee-keeping .....Hicks, 56
Uses of honey..... 660

Veil and gloves..... 646
Ventilation, 22, 707.....Tyrrel, 25—Holtermann,
152—Stevens, 188— Hand, 251 — Thielmann,
263—Urie, 553.....Lighty, 347
Virgin queens .....Demaree, 604

Water for bees, 118.....Bull, 43—Lymao, 170—
Jackson, 440.....Urie, 451
Wax adulteration 499
Wax-cakes 147
Wax-secretion, 325.....Gerry, 439
Weak colonies.....Hubbard, 339
Weather and crops..... 564
Weeds 732
Welcome apiary 356
What ailed the bees?.....Johnson, 124—Dorsey, 501
What the bee has taught us.....Hall, 553
When to buy and move bees.....Harrison, 840
Wide frames..... 805
Width of sections..... 681
Wild flowers—bunch of (poem).....Chase, 372
Wiley lie, 52, 68, 196, 216, 387, 499, 516, 580.....
Langstroth, 220—Ewing, 291—Doolittle, 388—
Evans, 388—Wiley, 388, 484—Dunn, 548—Pettit, 565
Winter flights of bees..... 70
Winter food of bees.....Hutchinson, 603
Winter passages in combs.....Holtermann, 649
Winter of 1888-89.....Dibbern, 763
Winter stores.....Singer, 717

WINTERING BEES, 7, 696, 747.....Waldron, 8—
Nebel, 13—Gibson, 42 — Henkle, 42—Lindle,
55—Councilman, 56—Reusch, 75—Bates, 75—
Besth, 202—Lighty & Zeigler, 204—Holden,
266—Kinsel, 280 — Tyler, 311 — Secor, 312 —
Boardman, 347—Hambaugh, 377—Hall, 554—
Pieree, 648.....Schmidt, 812
In box-hives.....Stone, 83
In cellars..Councilman, 56—Ogden, 62—Cleary,
124—Ford, 139—Hulett, 151—Prime, 156—Hall, 554
In light cellars .....Ball, 62, 157
Bingham, 106.....Youngman, 156
In the South.....Bingham, 117
On the summer stands.....Rosecrans, 109
Under a straw-stack..... .....Utz, 410
Under the snow.....Doolittle, 822
Winter, we greet thee (poem).....Lloyd, 23
Winter work .....Stockwell, 8
Wired comb foundation 22
Wired frames of foundation 198
Women and bee-keeping, 691, 757.....
Douglas, 91 — Gale, 645 — Casbon, 762 —
Atwater, 806.....Sherman, 836
Wooden comb..... 755
Woonsocket, R. I., fair..... 629
Worker bees .....Staley, 791
Worker brood in drone-cells.....Miller, 583
Work in the apiary .....Young, 71
Work of the bees.....Power, 757
Worse than moonshine.....Foggy, 460

Yellow fever in Florida.....Craycraft, 629
Yellow-jackets.....Staley, 522
Young, Ivar S.....37, 755
Young queens.....Demaree, 456

CORRESPONDENTS.

Abbott, Rev. E. T., 223.
Abbott, L. F., 531.
Adams, Rev. G. A., 12, 291, 476.
Adams, H. G., 439.
Adamson, Ira, 317.
Addenbrook, W., 13, 460, 524.
Adkison, A. J., 252.
A. H. N., 245.
Aiken, D., 119.
Alderman & Roberts, 707, 750.
Aldrich, P. M., 501.
Alles, Fred. L., 651
Alley, Henry, 599, 692, 796.
Alpaugh, Jacob, 125, 180,
Alves, G. M., 311, 839.
"Amateur Expert," 483, 787.
Ambrozic, Michael, 19.
Amos, J. H., 531.
Anderson, Thos. A., 372.
Anderson, Wm., 316, 459.
Andrews, Frank, 217.
Andrews, John, 204, 268.
Armstrong, J. C., 515, 796.
Arnold, Henry H., 357.
Arwine, E. S., 725.
Ashby, G. H., 668, 812.
Aspinwall, John, 363.
Aten, A. C., 186, 217, 540.
Atwater, A. B., 268.
Atwater, S. B., 806.
Avery, John B., 556.

Babb, Enoch, 108.
Bacon, R., 572, 596.
Bailey, Moses, 492.
Baker, C. W., 300.
Balch, Wm. H., 76, 471.
Baldensperger, J., 59.
Baldridge, M. M., 10, 41, 104, 132, 133, 136, 149, 281, 440.
Ball, H. S., 62, 157, 317, 501.
Barb, B. F., 149.
Barber, Chas. D., 12, 259, 444, 523, 604.
Barber, Ira, 125.
Barlow, Bradford, 45.
Barnard, H. P., 570.
Barney, M. L. & Bro., 109.
Barnhart, Samuel, 200.
Barrows, D. P., 251, 300.
Barrows, O. B., 43, 364, 380, 492, 579.
Bartow, Allen, 41, 203.
Bates, Clara Doty, 614.
Bates, P. J., 75, 115.
Battey, C. D., 812.
Bauernfeind, John, 268.
Beall, Wm., 133.
Beath, Jos., 169, 202.
Becker, Jacob, 476.
Bell, J. C., 620, 675.
Bell, N. M., 339, 483.
Bennett, Miss Dema, 132, 361, 373, 718.
Benton, Byron, 459, 766.
Benton, F. H., 92.
Benton, Frank, 329, 518.
Besse, Dr. H., 331.
Bessey, Prof. C. E., 90.
Billing, Peter, 44.
Bingham, T. F., 21, 106, 116, 117, 411, 556.
Bittenbender, J. W., 389, 508, 828.
Blachly, Mrs. Mary, 405.
Blanchard, J. H., 204.
Blodgett, John W., 61, 83, 341, 460, 733.
Blow, T. B., 824.
Boardman, H. R., 347.
Boerstler, John, 45, 77, 285, 620.
Bomberger, W. M., 84, 99.
Bostwick, J. R., 164.
Bosworth, W. V. Jr., 796.
Boutwell, W. B., 251.
Boyd, Calvin, 165.
Boyles, J. E., 645.
Bradish, C. W., 92, 332.
Brasel, Thos., 67.
Bray, A. B., 37.
Breed, Dr. J. E., 492.
Breeder, C. H. 200.
Bridges, A., 164.
Brillhart, S. B., 35.
Brown, Arthur F., 556.
Browne, A. F., 758.
Brown, J. Few, 115.
Buchanan, John A., 109, 328.
Buck, D. C., 183.
Buckley, A. D., 373.
Bull, Joshua, 29, 184.
Bull, T. S., 43.
Buller, Edmund, R., 165.
Bunch, C. A., 538, 684.
Burnet, R. A., 84.
Burnett, H. G., 116.
Burton, S., 108, 316, 419, 476, 766.

Cady, J. E., 28.
Cadwallader, John, 475.
Caldwell, J. V., 300.
Camblin, A. S., 412,
Camm, Wm., 346.
Campbell, D. L., 157.
Campbell, E. C., 393, 616.
Campbell, R. H., 572, 750.
Canty, T. H., 362.
Carman, H. W, 188.
Csrbino, Lewis, 332.
Carroll, B. F., 13, 157.
Carson, S. K., 460.
Casbon, Mrs. E., 762.
Cates, H. M., 123, 156.
Catterson, J. S., 77.
C. F. G., 217.
Chaddock, M. B., 44, 260, 392, 700, 776, 826.
Chalmers, D., 340, 412.
Chapman, H., 620.
Chapman, Justus, 285.
Chase, Nellie, 372.
Cheasbro, L. D., 572.
Cheshire, Frank R., 596.
Choate, Rufus, 835.
Christie, A., 100.
Christie, John H., 285.
Church, S. J. & Son., 44, 508.
Churchill, E. P., 343.
Cissnan, Robt., 92.
Clark, A. N., 666.
Clark, H., 413.
Clark, J. M., 62, 76, 172, 779
Clark, Z. A., 69, 148, 181, 275, 532, 563.
Clarke, Rev. Wm. F., 104, 125, 221
Clayton, N. C., 645.
Cleary, Wm., 124, 602.
Coffin, N. D., 317.
Coffman, W. C., 189.
Colburn, E. P., 252.
Cole, G. W., 163, 189.
Coleman, F. M., 620.
Colman, Norman J., 709.
Comstock, J. L., 252.
Congdon, A. B., 28.
Conrad, S. W., 120.
Cook, Prof. A. J., 36, 58, 147, 151, 169, 181, 220, 244, 264, 323, 440, 452, 523, 532, 548, 563, 602, 611, 649, 675, 681, 715, 727, 739, 740, 794, 804, 838.
Coon, C. H , 154.
Councilman, E. W., 56, 108, 363.
Cory, Wm. G., 405.
"Country Bee," 616.
"Country Parson," 765.
Cover, G. W., 71, 405.
Cowan, Thos. W., 19, 20.
Cox, S. M., 828.
Craig, A. 124, 380, 668
Craig, David, 149.
Cram, M. M. 165
Craycraft, John, 629
Crocker, R. L. 188.
Cronkleton, Ezra J. 458, 572, 828.
Crowley, Wm. 171, 332, 524, 782.
Crouse, G. 252
Crowder, G. W. 316
Cullinan, W. J. 39, 310, 339, 403
Curlee, Mrs. J. B. 444, 540
Cushman, Sam'l, 58, 268, 539, 549, 568

Dadant, Chas. 200, 247, 295, 533, 537
Dadant, Chas. & Son, 51, 357.
Dahl, Rev. T. H. 108, 148
Damarin, A. 389

Daniel, W. J. 563
Danniher, D. D. 363.
Davenport, B. T. 249, 325
Davis, C. M. 43
Davis, John, 189
Davis, Nathan, 27
Davis, W. J. 170, 299
Deahl, H. P. 572
Dean, E. K. 276
Dedman, J. O. 717
Demaree, G. W. 184, 455, 485, 568, 604, 632, 827
Devinney, V. 539
Dibbern, C. H. 41, 51, 101, 116, 215, 216, 251, 275, 281, 305, 331, 325, 331, 355, 391, 467, 521, 535, 612, 644, 700, 763, 772.
Dibble, Wesley, 587
Dipman, John F. 267.
Dodge, J. R. 132
Doolittle, G. M. 23, 135, 188, 22 , 300, 323, 327, 375, 388, 439, 503, 567, 601, 630, 697, 707, 764, 771, 775, 822
Dorsey, Mrs. Ada, 501
Doudna, J. M. 28, 71
Douglas, Marcia A. 90
Douglas W. S. 524
Dowler, P. C. 179
Drummond, C. H. 292
Duff, A. H. 131, 340, 404, 587
Dunlap, A. H. 77, 125
Dunn, J. F. 147, 173, 548
Dyer, Wm. 268
Dyke, K. A. 668

Eaton, F. A. 86, 683
Eden, Ed S. 27, 171
E. D. K. 94
Edwards, T. M. 124, 285
Eidemiller, Geo. 444
Eikenberry, J. F. 604
Elliott, G. A. 243
Elwood, P. H. 427
England, P. J. 188
Enke, Wm. 412
Erkel F. C. 244, 684
Estes, H. O. 188
Evans, Jas. 348
Evans, Thos. C. 364
Evans, W. A. 77
Evans, W. M. 386, 437
Ewing, E. E. 291

Fair, Geo. W. 475
Faris, B. M. 267
Faris, John 173
Feathers, Harvey, 120,
Ferree, Locke, 133, 341
Flanagan, E. T. 812
Fleming, Mrs. L. B. 343
Flory, J. F. 28
Foggy, Ben, 460
Foote, J. A. 531
Ford, Wm. H. 139
Foster, B. E. 156
Foster, Oliver, 663
Fox, Dr. D. R. 62
Fox, Elias, 139
Fox, Dr. G. R. 508
Frame, H. G. 157
France, E. 163, 579
Fritz, B. F. 93
Fuller, D. A. 103, 196

Gale, Geo. 333, 377
Gale, Mrs. H. A. 645
Gander, A. M. 7
Geer, H. B 615
Gehring, Rev. J. D. 550, 617
George, Milo, 203
Gerry, E. 376, 439
Gibson, P. L. 42
Gifford, H. C. 153, 444, 652
Gile, J. F. 277, 421
Ginter, W. L. 165
Glass, Mrs. I. J. 189
Gleason, M. B. 745
Godfrey, Lizzie, 307
Good, I. R. 572
Goodale, Mary A. 204
Goodno, O. R. 332, 412, 460, 540
Goodrich, A. S. 524
Goodrich, Jas. M. 204
Graden, R. 298, 317,
Graham, J. G. 141
Graham, W. R. 35
Gravenhorst, C. J. H. 284
Graves, L. B. 163, 828
Graves, W. H. (Ill.), 188, 364
Graves, W. H. (Ind.), 217
Green, Jas. A. 535, 570
Greiner, F. 538
Griffith, B. C. 717
Grimshaw, R. A. H. 180, 424
Groff, Prof. G. G. 663
Grossman, David, 131
Group, John W. 329
Guenther, John H. 261

Haag, H. W. 42
Hachenberg, Dr. G. P. 519, 792, 811
Hagen, J. O. 718
Haggart Geo. B. 359
Haines, C. A. 62
Haines, J. C. 36
Hall, C. H. 553
Hall, J. B. 72
Hambaugh, Jos. M. 199, 279, 363, 377, 684, 707, 795
Hammersmith, L. 389, 413
Hanburg, F. E. 712
Hand, J. E 250
Hanson, Geo. W. 836
Harbison, J. S. 501
Harman, Isaac, 718
Harmer W. H. 292, 820
Harmon & Skinner, 325, 524
Harrison, Mrs. L. 20, 57, 196, 310, 372, 379, 396, 405, 492, 516, 581, 583, 596, 644, 650, 667, 676, 681, 692, 707, 713, 718, 725, 731, 745, 755, 772, 795, 809, 840
Harvey, J. M. 141
Haskin, S. D. 123, 412
Haskin, John, 620
Hastings, Geo. H. 489
Hastings, H 12
Haun, L. 717
Haven, E. G. 292
Havens, Reubens, 460
Hawley, T. F. 489
Hayne, Wm. H. 279
Head, J. S. 373
Heater, J. N. 89, 133, 628, 822
Heckman, G. S. 492
Heddon, Jas. 93, 94, 107, 140, 186, 201, 267, 379, 395, 490, 499, 505, 600, 643
Hellems, C. W. 248
Henderson, Geo. 244
Henkle E. 42
Herrick, D. D. 376
Herrick, T. M. 476, 604
Hess, W. M. 151
Hetherington, J. E. 549
Hewett, C. P. 42, 76, 120, 836
Hicks, J. M. 37, 56, 264
Higgins, J. H. 57
High, Geo. H. 356
Highbarger, L. 325, 468, 588
Hill, H. E. 313, 425, 540, 552, 612
Hill, John, 315
Hills, Mrs. H. 307, 361
Hilton, Geo. E. 5, 37, 67, 99, 203, 295, 766
Hines, Thos. O. 188, 523
Hinkley, W. M. 275
Hodge, W. A. 301
Hodges, Geo. 124
Hohnadel, Henry, 125
Hoke, Abe, 45, 492
Hone, Geo., Jr. 317
Holden, E. L. 266
Holmes, Roland, 252
Holtermann, R. F. 5, 72, 141, 152, 179, 189, 391, 456, 489, 569, 648, 668, 683, 697, 747
Howe, A. E. 717
Howe, J. H. 99
Hubbard, G. K. 107, 339, 451, 613
Hubbard, L. 124
Hughes, G. C. 252
Hulett, Mrs. Emma, 151
Hunt, Rev. John, 285
Huntington, O. B. 538
Huntley, F. A. 307
Hutchins, Isaac, 259
Hutchinson, Edwin, 141
Hutchinson, W. Z. 52, 472 521, 548, 603, 677, 694, 820
Hyle, Henry A. 684

Irwin, Jas. 268
Irwin, Wm. 157
Israel, E. 181, 195, 275

J. A. B. 395
Jacobs, J. M. 412, 701
Jackson, Mrs. O. F. 440
Jaggard Jas. 750
Jamieson, John, 396
Jarvis, E. 126, 285
J. B. 325
Jenkins, J. M. 538, 730
Jewett, S. W. 617
J. H. 300
Jones, C. H. 317
Jones, D. A. 407
Johnson, Jas. F. 92, 124
Johnson, Theo. 330, 782
Johnston, G. W. 165
Jordan, E. C. 468, 501
Jordan, E. T. 45

Kanzler, W. F. 469
Kauffman D. 584
Keeler, S. M. 355
Keeney, E. D. 62, 244
Kellogg, C. 556
Kellogg, W. M. 725
Kentch, John, 772
King, A. J. 515
Kinsel, T. F. 280, 782
Kirby, W. H. 823
Kirkpatrick, Geo. H. 268, 316, 508
Kleinow, Otto, 61
Klintworth, W. 345, 507, 619
Kloer, T. H. 476
Knickerbocker, G. H. 136 152, 597, 627
Kouba, A. V. 109
Kruschka, H. O. 584

Lacy, H. W. 43
Lanarkshire Bee-keeper 771
Langstroth, Rev. L. L. 55 119, 179, 219, 294, 515, 532, 681
Larsen, N. C. 443, 629
Latham, J. F. 10, 167, 313, 327, 508, 536
Lattner, P. 40
Leach, A. L. 12
Lee, Fayette, 44, 268
Leers, Dr. Wm. 265
LeFevre, Julius, 389
Leighty & Zeigler, 204
Lewis, S. S. 276
Lighty, L. W. 332, 347, 361
Lind, A. H. 52, 77
Lindle, J. B. 55, 185, 285, 325
Lindley, C. V. 389
Lisenby, J. M. 215
Liston, E. 380
Little, B. F. 186, 52
Little, P. M. 308
Lloyd, S. W. 23
Lockhart, F. A. 83, 125
Loomis, A. C. 157
Lord, A. D. 217, 469
Lossing, Wm. 165
Loudon, J. H. 356
Loveland, C. L. 394
Lovett, E. 499
Lovett, Rodman, 517
Luce, Edward C. 524
Ludlum, J. K. 37, 796
Lyman, Ira N. 243, 357, 444, 532
Lyman, J. M. 170
Lynn, Hugh L. 133

Mahin, Rev. M. 288, 328
Malcolm, F. 72
Mallory, S. H. 61
Malone, W. 341, 357, 419, 524
Maley, A.E. 157, 810, 717
Manley, B. A. 203, 285
Manum, A. E. 420
Margileth, Edw. 61
Marks, W. F. 203
Martin, J. H. 340
Martin, J. J. 714
Martin, W. H 588
Mason, Dr. A. B. 9, 20, 37, 123, 132, 164, 195, 228, 259, 283, 300, 437, 444, 515, 611, 618, 628, 759
Mason, Mrs A. B. 454
Mason, J. B. 552
Mason, W. 93, 252
Mathews, R. J 28, 828
McConnel, D. R. 725
McCormick, Geo. 13
McCormick, Wm. B. 588
McCrum, W. S. 61
McDaniel, D. W. 620
McDaniel, J. M. 462
McDonald, F. H. 29, 285
McIlvain, Frank, 363
McIntyre, J. F. 444
McKnight, R. 24, 230, 660
McKown, C. W. 147
McLain N. W. 149, 197, 421, 472 485, 487, 709
McNeill, Jas. 181, 364, 444, 496, 586
Meade, R. L. 133
Meeker, E. F. 61
Mercer, Nathan, 252
Meredith, Maude, 483
Merritt, F. M. 341, 380
Middlebrook, N. M. 332
Millard, D. 422 588
Miller, Dr. C. C. 26, 108, 228, 434, 483, 583, 599, 615, 651, 692, 693, 711, 732, 777, 787
Miller, J. M. A. 109
Miller, J. P. 692
Miller, J. F. 77
Miller, L. A. 331
Miller, M. 93
Miller, O. P. 828
Miller, S. E. 667, 712, 728
Miller, S. J. 92
Mills, Chas 195
Mills, Jas. W. 316
Moller, John, 766
Morgan, E. B. 604
Morgan, M. S. 645
Morris, Geo. W. 121, 169, 332, 764
Morrison, Dr. S. W. 84, 355, 380, 420, 765
Morse, W. W. 405
Moser, J. 125
Moyer, H. M. 307, 361, 419, 691
Murphy, R. R. 268
Muth, Chas. F 249, 600
Muth, C. F. & Son, 636.
Muth-Rasmussen, W. 183
M. W. W. 141

Nance, J. G. 364
Nebel, Jno. & Son, 13, 331
Neighbour, Alfred, 724
Nelson, Wm. N. 276
Nemmers, Rev. John, 501
Netherton, W. J. 459
Newman, Albert, 156
Newman, J. H. 28
Newman, Thos. G. 458, 681 694, 841
Nisbet, A. R. 565
Nysewander, Jos. 650

O'Dell, L. D. 460
Ogden, G. W. 62
Olney, G. B. 163, 452, 729
Oswalt, Jacob, 156

Pammel, Prof. L. H. 633, 838
Pardee, C. A. 452
Park, D. F. 126, 629
Park, Mrs. A. G. 7
Parker, Dr. E. W. 363
Patterson, Henry, 316
Pearce, J. A. 180
Peck, B. W. 156, 460
Peck, W. C. 244
Pemberton, C. 61
Peters, John, 523
Pettit, S. T 51, 73, 565, 745
Picket, Abner, 61
Pierce, B. T. 203
Pierce, G. R. 603, 647
Pigg, J. W. 540
Pinkerton, A. 11, 195, 204
Plummer, I. F. 555
Poindexter, Geo. 504
Pond, J. E. 53, 264, 297, 393 483, 715
Poole, O. 435, 740
Poppleton, O. O. 248, 325, 437, 471
Post, L. B. 613
Potter, Geo. H. 204
Pouder, W. S. 499
Power, Mrs. Susan, 757
Prime, G. S. 156
Prior, W. H. 405, 585, 701, 766
Proctor, Dr. J. A. 124
Proxmire, Lewis, 164
Pryal, W. A. 164
Pryor, J. E. 620
Puhl, P. M. 547
Pursel, John G. 45, 252
Putnam, C. H. 116

Rambler, 564.
Ran, Samuel, 11.
Rawlins, R. M. 283 341
Ray, Wm. B. 332
Raynor, Rev. G. 403
Reed, John B. 803
Reed, L. 217
Reed, L. G. 11
Reed, S. F. 701
Reese, John S. 299
Reichard, Levi, 504
Renfro, W. D. 109
Rensch, A. 75, 611
Rexford, E. E. 245
Reynolds, F. B. 76, 215, 316
Rich, John K. 61, 204
Rich, S. W. 523
Richards, F 51
Rickard, S. H. 20
Rickenbacher, J. A. 204
Ridenour, Wm. A. 268
Ridout, C. G. 668
Riggins, Jas. B. 469
Riley, C. V. 788
Robbins, D. E. 796
Robbins, Geo F. 222
Robinson, C. J. 727
Robson, A. F. 195
Robson, Wm. 28
Rockwell, F. F. 77
Roe, W. F. 204
Roebuck, J. R. 187
Roese, Rev. S. 553, 620, 629, 699
Rogers, H. J. 185, 618
Rogers I. N 604
Roop, M. S. 187
Root, A. I. 337 421, 516, 707, 739, 771, 787
Root, L. C. 676, 743
Rose, Alex, 317
Rosebrock, H. H. 931
Rosebrough, D. R. 124, 203, 292, 668
Rosecrans, J. 109
Roulo, P. 292
Rouse, H. L. 77, 155, 373
Rowe, E. F. 13
Rudisill, S. A. 148
Rummel, R. A. 268
Russell, R. S. 649
Ryan, R. 83 459
Ryder, S. B. 371

Sage, F. I. & Son, 138
Sample, John R 317, 437
Sanborn, G. B. 195
Sanders, J. W. 251, 717
Sanford, T. S. 423, 452
Sawin, F. J. 93
Schacht & Lemcke, 132
Schmidt, Dr P. W. 812
Schmitt, F 204
Schumacher, Albert, 836
Schultz, H. A. 773
Scofield, J. T 181
Scoles, Dr. H. J. 27, 524 620
Scott, B. D. 75, 572
Scott, Geo. G. 92, 604
Seabright L. C. 45, 165
Secor, Eugene, 115, 120, 147, 156 216, 223, 263, 312, 469, 476, 551, 584, 681, 693, 730, 732.
Seeley, H. M. 60, 203, 317, 341, 556, 627, 629, 725
Seely, John S. 733
Shallard, Maj. A. 195, 724
Shallcross, John. 149
Shaner, W. H. 252, 839
Shank, Daniel, 380
Shapley, D L. 604
Shaver, Jos. E. 4, 332
Shearman, J. O 524
Sheldon, Daniel, 684
Shepherd, M. W. 308, 356
Sherburne, Roland, 171
Sherington, A. 99, 332
Sherman, F. D. 531, 714
Sherman, Mrs. S. E. 332, 836.
Shier, Wm. 796
Shirer, G. R. 718
Shirley, W. H. 483
Shoup, S. 572
Shuck, J. M. 35, 102, 297, 614
Shuck, S. A. 268, 344, 443, 662, 804
Sievert, Fred. 266
Simpson, A. R 332, 524
Singer, Aaron. 179, 716
Smith, Dr. A. E. 781
Smith, Allen F 371
Smith, E. T. 252, 476
Smith, Geo 44
Smith, H. 300, 540
Smith, John G. 746
Smith, J. W. 153, 357
Smith, Martha, 380
Smith, W. H. 27, 77
Smithers, R 364
Snell, F. A. 98, 627
Solveson, Chas. 37, 109, 125, 412
Spencer, M. L. 35, 524
Spitler, Geo. 29
Stachelhausen, L. 443, 741
Stahl, John M. 393
Staininger, N 364, 556
Staley, H. K. 505, 523, 552, 771, 790, 808
Stallhammer, Hj. 595
Standish, B. H. 444, 572
Stanford, J. H. 300
Stanley, Mrs. N. 244
Stanley, Thos. C. 300
Stapler, Mrs. J. S. 325
Stark Henry, 364
Stephens, Frank, 188
Stephens, G. W. 825
Stephens, W. B. 93
Stephenson, U. 812
Stevenson, D. P. 61
Stewart, Henry, 501
Stewart, W. H. (Dak.) 120
Stewart, W. H. (Ills.) 57
Stewart, Leslie, 323, 380, 459, 507, 701, 759
Stiles, F. P. 93
Stith, A. W. 504, 602
Stoeking, A. D. 315
Stockwell, Geo. A. 8
Stokes, Thos 165, 357, 540
Stoler, D. M 356, 380
Stolley, Wm 74, 109, 701
Stone, L. J 124, 277
Stone, S. P. 83
Stout, H. V. S 163
Stout, Lemuel, 782
Straw, A. S. 412
Stringer, W. H. 412
Styer, Evan R 109
Swan, John, 789
Swaner, John S. 357
Sweet, C. L. 196, 266
Swezy, A. J. 103

Taintor, F. M 92
Taylor, R. L. 345, 731, 793
Tefft, Jas. W. 426, 468, 508, 556, 588, 766, 778, 804, 812, 836, 838
Thielmann, C. 13, 24, 263, 316 339, 341, 363, 492, 668
Thompson, C. B 268
Thomson, Mark, 101, 298
Thorne, A. H. 28
Thorne, W. B. 141
Thornton, Jhon A. 74, 620
Tinker, Dr. G. L. 86, 169, 330, 474
Todd, J. O. 579
Toney, B. B. 468
Traphagan, L. E. 750
Treadwell, W. B. 132
Trumper, E. H. 45
T. S. 547
Tucker, R. L. 201, 812
Tucker, Vet, 172, 717
Turnbull, John, 75
Turner, Thos. E. 77, 492
Tuttle, M. O. 217, 341, 403, 588
Tweed, M. H. 421
Twining, Dana, 469
Tyler, Jas. M. 311
Tyrrel, A. C. 25, 196, 260, 517, 794

Urie, Wm. 451, 553
Utz, Andrew, 410

Vandervoort, J. W. 836
Vandruff, W. S. 168
VanVechten, C. H. 141, 165
Viallon, Paul L. 36, 596
Vought, Albert, 743

Waldron, A. C. 8, 555, 826
Walker, J. E. 364
Wall, Mr. 772
Walrath, Geo. A. 796
Walsh, Henry, 45
Walton, Col. R 156
Waring, Frank, 251, 782
Warner, Dr I. W. 812
Watkins, S L. 632, 824
Waterman, L. E. 572
Watterson, David, 141
Weber, L. J. 691
Webster, Prof. G. W. 678
Weckesser, C. 99, 285, 460
Weeks, C 244, 268
Weidman, John H. 407, 476
Wendelken, Gerd, 197, 556 568, 601
Westover, Daniel, 41
Whan, S 819
Whitford, G. M. 44 316, 750
Whiting, T. C. 508
Whitmer, Daniel, 125, 412
Whittier, John G. 323
Wiele, Chas H. 476
Wilcox, David, 165
Wilcox, F. 122, 181, 620
Wilder, W. L. 467
Wiley Prof. H. W. 196, 388, 484
Wilkins, C. W. 217
Wilkins, Frank, 203, 243
Williams, M A. 508
Williams, R. A. 540
Williams, Tudor, 435
Williamson, John A. 718
Willer, W J. 282, 408
Willis, Wm. 8
Willis, Jesse & Son, 285
Wilson, Alva 252
Wilson, H. E. 517
Winder, J. W. 44 179, 588
Winney, D. J. 572
Winthrop, Grace, 775
Wise, John D. 141
Wood, Jas. F. 586
Woodman, L. C. 28
Woodward, C. E. 744, 807
Woodward, Dr. R. B. 189, 828
Woodward, W. M. 684, 698
Wray, G. O. 261
Wright, A. 408
Wright, Geo. A. 739

York Geo. W. 518, 551, 712
Young, Ivar S. 37, 707
Young, J. M. 71, 119, 203, 343, 796
Youngman, S. J 124, 156, 261, 460, 524, 563, 567, 725

Zastrow, Ferd. 267

ILLUSTRATIONS.

Alfalfa or Lucerne Clover..... 68
Alsike Clover Bloom 10, 613
Apiary of George E. Hilton..... 5
Apiary of J. H. Robertson 197
Bee's Respiratory Organs..... 225
Bee-Sting 227
Bee's Tongue 225
Bingham, T. F. 21, 117
Brood Comb with Queen Cell 226
Cary's Bee-Feeder 102
Comb. 226
Combined Scroll and Circular Saw 757
Comb Supporter, for extracting 792
Diagonal Combs 83
Drone Bee 223
Drone Bee's Head 224
Egyptian Apiary 549
Frame Hook 520
Gravenhorst, C. J. H. 741